



# **Wairau/Awatere Resource Management Plan**

**Plan Change 58**

**Summary of Submissions received by Marlborough District  
Council**

**November 2009**



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# ***Submission Summary - Wairau/Awatere Resource Management Plan - Plan Change 58 Use of Wind Machines for Frost Protection - By Section***

## **Additional - Additional Provisions Sought**

### **Kevin J A Little - Submitter #: 16 Submission Point : 68**

1. Monitoring frost fans through a website is being used by some growers (Stuart Smith frost fan workshop).
2. If frost fans can be shut off in wind this would alleviate safety concerns and wind seems to intensify noise by a large degree.
3. Adding a 550 metre setback from any dwelling will alleviate worries about safety if machines malfunction.

**Relief sought:** 1. It should be compulsory that monitoring of frost fans occurs with a warrant of fitness or certificate of fitness, and safety checks to apply.

2. Frost fans be fitted with an automatic shut off in wind.
3. A 550 metre safety back from dwellings should apply.

### **Kevin Eaton and Sara Stringer () - Submitter #: 37 Submission Point : 14**

Additional changes to the plan change are proposed.

**Relief sought:** 1. Ban all 2 bladed frost fans.

2. Any existing 2 bladed frost fans should be retrofitted with four blades.
3. Remove any frost fan installed closer than 300 metres to a neighbouring property.
4. Vineyard owners be given instant fines if laws are broken.
5. A person should be appointed to act on any complaints about frost fans being non-compliant (day or night).
6. Vineyards are to be charged a levy per frost fan to pay for policing of new laws.
7. Vineyard owners must notify neighbours if there is a change of frost fan coming on.
8. Vineyard owner should be required to have someone on the property when fans are running.
9. All new laws should be retrospective.

### **Malcolm Maclean - Submitter #: 13 Submission Point : 59**

There should be an additional provision in 30.2.9 to require frost fans to be set back from dwellinghouses, visitor accommodation or other habitable building to mitigate against the possibility of mechanical failure and subsequent blade separation.

**Relief sought:** Add a new rule 30.2.9.1.5 as follows:

"To mitigate potential for injury from mechanical failure, the frost fan shall not be located within 200 metres of any dwellinghouse, visitor accommodation or other habitable building."

**Michael Hyson - Submitter #: 28 Submission Point : 134**

Fans create greatly increased noise in any wind. (A report attached to the submission by Rikan Aeromarine Ltd provides detail on this). Because this is a noise issue, regardless of whether growers would use fans in wind, provision must be made in the rules to shut down fans in excessive wind.

Even though the catastrophic failure of frost fans is not a noise issue, rules introduced through the plan change should not infringe upon calculated safety zones around residences. A flexible rule is needed to allow for different machine types and for technological and safety changes in the future.

**Relief sought:** 1. A compulsory 'excessive wind' shut-down switch must be fitted to the fan engine. This must disable the fan blades in winds exceeding 8 - 10 kph.

2. Notwithstanding the noise distances permitted in the rules no fan should be positioned within a 'minimum safety zone' calculated for the configuration of machine. A reference to a 'minimal safety zone' is recommended around residences.

3. Because audible characteristics are the sleep destroying part of the noise from fans, they should be designed out. A penalty must be retained such that 'audible characteristics if present are to cause a 5 dB penalty greater restriction on allowable noises'.

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 83**

It is understood operation of frost fans during certain advection frost events is counter productive to frost mitigation and under these circumstances residents affected by noise from frost fans should not have to tolerate their operation. It may be that additional provisions are required to prohibit use of frost fans during advection frost events defined in a manner deemed appropriate by meteorological experts.

**Relief sought:** Consider the sustainability of frost fan operation for advection frost events with independent expert meteorological input as to the practicality of such plan provisions. Consider the possible need for prohibited activity status for advection frost events.

**Netherwood Lodge Trust ( Adele Dawkins) - Submitter #: 5 Submission Point : 19**

**Relief sought:** 1. All new frost fans should have 4 blades and existing fans should be modified from 2 to 4 blades.

2. Water protection is an option that should be used in preference to fans where existing activities, which are noise and vision sensitive, are at risk.

**Netherwood Lodge Trust ( Lindsay Dawkins) - Submitter #: 6 Submission Point : 26**

**Relief sought:** 1. If existing 2 bladed fans, gear box and engines could be modified to take 4 blades this could help.

2. Water is an option that should be used in preference to fans where existing activities, which are noise and vision sensitive, are at risk.

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 37**

**FREQUENCY OF USE**

Frost fans operate during a limited time period of operation and may warrant specialised limits based on these factors (as opposed to application of the normal permitted activity noise standards for these devices). The Council should not analyse this issue in isolation from an acknowledgment of the limited nature of frost fan usage.

**Relief sought:** Because the duration of frost fan usage is very low (when considered annually), this should be given consideration in any new framework proposed by the Council.

**Paul Bruckel - Submitter #: 21 Submission Point : 63**

Frost fans operating in windy conditions increases the noise from the fan blades. A report from Rikan Aeromarine Ltd is attached to the submission to demonstrate this point.

*Relief sought:* Frost fans should be required to include a wind sensor and automatic shutdown to prevent them from operating in windy conditions.

**Peter Constantine - Submitter #: 24 Submission Point : 110**

The absence of clear policy in respect of the establishment, use and maintenance of frost fans in the rural zones of the district deprives the resource management plan of appropriate context for the rules and any exceptions to the standards and terms that may be sought through applications for resource consent.

Establishing specific information requirements for resource consent applications for frost fans would ensure two outcomes: first, that Council is furnished with the information it requires to determine any proposal; and secondly, that applicants consider the environmental effects of proposals and, if appropriate, provide clear reasons why the standards and terms cannot be achieved.

*Relief sought:* 1. Add the following new policy, or a policy with like effect, after Objective 12.2.2.2:

"To recognise that the rural areas of the district are dynamic in terms of the characteristics and spatial location of crops grown and the needs of those crops for protection from the adverse effects of climate at particular times during the growing cycle."

2. Add a new rule as follows or to like effect:

"Any application for a resource consent for the erection and use of a frost fan shall include the following information in addition to that required by s88 Resource Management Act 1991.

- Details of the proposed frost fan(s).
- A plan showing the location of the proposed frost fan(s) and the area it is designed to cover.
- A report prepared by a recognised acoustic consultant setting out a full and detailed description of the proposed equipment, a prediction of the noise footprint of the proposed frost fan machine based upon stated operational parameters, and an assessment of the proposal against the Standards and Terms set out in the relevant Plan rules. The report should also detail all methods to be employed that will ensure the performance of the frost fan machine and noise levels generated remain as predicted."

**App K - Appendix K Marlborough Ridge Zone**

**C J Smith - Submitter #: 2 Submission Point : 8**

Support and oppose the provisions for the Marlborough Ridge Zone as per comments for the rules for the Rural 3 and 4 Zones.

*Relief sought:* Amend provisions for the Marlborough Ridge Zone as per changes sought for the Rural 3 and 4 Zones.

**Clintondale Trust - Whyte Trustee Company Limited ( David A Whyte) - Submitter #: 12 Submission Point : 105**

Oppose deletion of the permitted activity status for frost fans. Support new rule 2.2.11.1 but with amendments. To ensure the adequacy and enforceability appropriate noise installation standards should be specified. The certification should be required as part of the building consent process and entered onto the Land / Project Information Memorandum files.

**Relief sought:** 1. Amend Rule 2.2.11 as follows:

"Operation of frost fans shall be a Permitted Activity provided the activity conforms to the following standards and terms:

(a) Noise from all frost fans operating cumulatively on a property shall not exceed 60dBA Leq 10 min when measured:

(i) At a distance of 300 metres from the frost fan(s); or

(ii) At the notional boundary of any existing dwelling, visitor accommodation or other habitable building (other than on the site which the frost fan is located), whichever is the least distance.

The sound levels shall be measured in accordance with the provisions of NZS 6801:2008 Acoustics - Environmental Noise.

For the purposes of this rule the notional boundary is defined as the external wall of the bedroom closest to the frost fan.

(b) Frost fans shall only be operated for frost protection and when the local air temperature on the vineyard drops to, or below, 2 degrees centigrade, recorded at a height above ground level relevant to the bud height of the plants being protected.

(c) Frost fans shall not be located within 300 metres of an Urban Residential Zone."

2. Add a new Rule 2.2.11.1 as follows:

"(a) Any new dwelling house, visitor accommodation or other habitable building located within 500 metres of any frost control fan shall provide as part of the building consent process an acoustic certificate to the Council by a suitably qualified and experienced acoustic engineer to confirm that the building work has been designed, specified and constructed to achieve an insulation rating of  $DnTw + Ctr > 30\text{dBA}$  for the building envelope as described within NZS 1276.1:1999 acoustics-rating of sound insulation in buildings and of building elements Part 1: Airborne Sound Insulation.

(b) This rule shall also apply to any alteration of an existing dwelling house, visitor accommodation or other habitable building located within 500 metres of any frost fan, where a new bedroom forms part of the alteration. Only the new bedrooms must be treated in accordance with (a) above.

(c) For the purpose of this rule, 'frost fan' includes an existing frost fan permitted by right or a proposed frost fan for which an approved building consent and/or resource consent has been granted."

**Horticulture New Zealand ( Chris Keenan) - Submitter #: 20 Submission Point : 35**

Support Rule 2.2.11.1.

**Relief sought:** Retain rule.



**Malcolm Maclean - Submitter #: 13 Submission Point : 61**

Support deletion of existing rule 2.2.11.

Oppose proposed rule 2.2.11.1 as to acoustically insulate a bedroom in a dwelling to a level based on the proximity to only one frost fan, does not take into account the cumulative noise from other frost fans. Designing a dwelling to achieve a level of attenuation less than 30 dBA Leq allows for the installation of further fans in the surrounding environment and supports the potential for future development of agricultural use of frost fans.

Expanding the sphere of potential frost fan noise sources to 1000 metres and including all fans in this sphere, means the cumulative impacts are taken into account and residents will be protected.

**Relief sought:** 1. Support deletion of existing rule 2.2.11.

2. Amend proposed rule 2.2.11.1 as follows:

"(a) Any new dwellinghouse, visitor accommodation or other habitable building located within 1000 metres of any frost fan(s) shall be designed and constructed to ensure that the noise level inside any bedroom of the dwelling shall not exceed 27 dBA Leq with all frost fans within 1000 metres operating when the doors and windows are closed. Compliance with this standard shall be demonstrated by the production of a design certificate from an appropriately qualified and experienced acoustic engineer

(b) This rule shall also apply to any alteration of an existing dwellinghouse, visitor accommodation or other habitable building located within 1000 metres of any frost fan(s), where a new bedroom forms part of the alteration. Only the new bedroom has to be treated in accordance with part (a) of this rule.

(c) For the purpose of this rule, 'frost fan' includes a proposed frost fan for which an approved building consent and/or resource consent has been granted."

**Meadowbank Holdings Limited ( William Grigg) - Submitter #: 27 Submission Point : 130**

Producers should have the ability to protect a far greater portion of their land in accordance with the Plan's policy framework which gives significant recognition to protecting the productive capacity of rural areas. If people wish to live in a rural area the onus should be on them to build a dwelling that meets the 30 dB criteria.

**Relief sought:** 1. The rule should exclude dwellings on the property that frost fans are operating on.

2. The rule should include that any dwelling house or other habitable building built in a rural residential zone should be built so that the noise level inside any bedroom of the dwelling should not exceed 30 dB from a frost fan 100 metres away.

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 95**

The submitter makes the same submission on Rule 2.2.11.1 as detailed in the comprehensive submission on the Rural Zone Rule 30.1.4.2.4. The submitter makes the same submission on Rule 2.3.3 as detailed in the comprehensive submission on the Rural Zone Rule 30.2.9.

**Relief sought:** As detailed in the submission on Rural Zone Rules 30.1.4.2.4 and 30.2.9.

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 49**

Oppose including provision for the Marlborough Ridge Zone in this rule as the policy framework for the Zone recognises it is situated in the midst of a rural productive area and that appropriate rules to minimise reverse sensitivity were required. It was acknowledged by the Council at the time that there would be cross-boundary effects (then envisaged as bird bangers) and provision was made in the Plan for it.

If the rule is to be included then it should be the same as proposed by NZW for the Rural 3 and 4 Zones.

The inclusion of a rule for noise sensitive activities is supported with minor wording changes. NZW appreciates that by including this rule the Council has made an effort to protect rural industry from reverse sensitivity.

**Relief sought:** 1. Do not include the Marlborough Ridge Zone in this rule.

2. If a rule is to be included then it should be as follows:

Amend Rule 2.2.11 as follows:

"Operation of frost fans shall be a Permitted Activity provided the activity conforms to the following standards and terms:

(a) Noise from all frost fans operating cumulatively on a property shall not exceed 60 dBA Lec when measured:

(ii) At a distance of 300 metres from the frost fan(s); or

(iii) At the notional boundary of any existing dwelling, visitor accommodation or other habitable building (other than on the site which the frost fan is located), whichever is the least distance.

The sound levels shall be measured in accordance with the provisions of NZS 6801:2008 Acoustics - Environmental Noise.

(b) Frost fans shall only be operated for frost protection and when the air temperature on the vineyard drops to 2 degrees Celsius with the exception of:

(i) Maintenance and testing purposes. "

Add a new Rule 2.2.11.1 as follows:

"(a) Any new dwelling house, visitor accommodation or other habitable building located within 300 metres of any frost control fan shall provide an acoustic certificate to the Council by a suitably qualified and experienced acoustic engineer to confirm that the building work has been designed and specified to achieve an insulation rating of  $DnTw + Ctr > 30$  dBA for the building envelope as described within NZS 1276.1:1999 acoustics-rating of sound insulation in buildings and of building elements Part 1: Airborne Sound Insulation.

(b) This rule shall also apply to any alteration of an existing dwelling house, visitor accommodation or other habitable building located within 300 metres of any frost fan, where a new bedroom forms part of the alteration. Only new bedrooms must be treated in accordance with (a) above.

(c) For the purpose of this rule, 'frost fan' includes a proposed frost fan for which an approved building consent and/or resource consent has been granted."

**Paul Bruckel - Submitter #: 21 Submission Point : 39**

The cumulative noise of multiple frost fans will exceed that allowed for individual machines by the plan change. Rule 2.3.3: should therefore deal with the cumulative noise effects of all machines, as measured at a dwelling.

Reducing the switch-on temperature to below 0.75 degrees C would delay the start up time, reduce the noise nuisance, save fuel and reduce the carbon footprint of frost fans. A switch-off time of 0.75 degrees C would provide similar benefits.

Staff should be required to be on-site to enforce these requirements.

*Relief sought:* 1. Amend Rule 2.3.3.2 as follows:

"Cumulative frost fan noise shall not exceed 55bBA Leq (or 50dBA Leq where special audible characteristics exist) when measured at the notional boundary of any existing dwelling, visitor accommodation or other habitable building (other than on the property on which the property on which the frost fan is situated."

2. Delete "at a distance of 300 metres from the device; or"

3. Amend Rule 2.3.3.4 as follows:

"The frost fan shall only be operated for frost protection from bud burst (mid September) to mid-December, and from 1 March to the last day of harvest, or the 30 April, whichever comes first, commencing when the air temperature at the vine canopy drops below 0.75 degrees C and terminating when this temperature rises above 0.75 degrees C."

4. Insert a note after (b) as follows:

"Note: It is important to ascertain make, model gearbox ratios and engine speed in order to correctly calculate fan blade speed for correlation with acoustic report(s) when non-standard combinations are installed."

**Peter Constantine - Submitter #: 24 Submission Point : 118**

The submitter makes the same submission on Rule 2.3.3 as detailed in the comprehensive submission on the Rural Zone Rule 30.2.9.

*Relief sought:* As detailed in the submission on Rural Zone Rule 30.2.9.

**General - General Comments**

**Glenys Parsons - Submitter #: 29 Submission Point : 135**

The submitter describes the issues they have had with frost fans operating near to their house on a 20 acre block in the Wairau Valley. A fan is within 100-150 metres of the house and the submitter describes difficulties in sleeping and also concerns from a safety perspective. The effect on animals on their property is also described.

*Relief sought:* The Council should address noise and safety issues from frost fans.

**Horticulture New Zealand ( Chris Keenan) - Submitter #: 20 Submission Point : 45**

The use of frost fans for frost protection is a normal rural production activity.

The reverse sensitivity issues have been created as a result of rural residential development approved by the Council. There should be greater Council control over land use change from rural to rural residential.

Noise from frost fans is a localised issue occurring yet the plan requirements will apply to and penalise all rural properties.

*Relief sought:* The Council should notify potential rural residents of the realities of living in, and adjacent to, rural areas.

**Lions Back Vineyard ( Andrew Hammond) - Submitter #: 30 Submission Point : 139**

No change should be made to the existing rules for frost fans.

*Relief sought:* No change should be made to the existing rules for frost fans.

**McKean Estates Marlborough Limited ( Steve Meckiff) - Submitter #: 32 Submission Point : 142**

The plan change is opposed. It will be difficult to appease all parties. The 55 dBA proposed will be implemented for new installations but no change is able to be implemented on existing machines.

Helicopters as an alternative to frost fans is not an desirable outcome.

Frost protection needs serious consideration as without well managed frost control, the wine industry is seriously jeopardised and therefore the prosperity of the region.

*Relief sought:* Oppose the plan change.

**Meadowbank Holdings Limited ( William Grigg) - Submitter #: 27 Submission Point : 125**

The plan change is opposed. The number of complaints received by the Council when compared with the number of people residing in rural areas suggests it is the minority that have an issue with frost fans. This does not warrant a plan change when regard is had to the policies of the Plan.

The right to farm sustainable into the future should not preclude the use of new technologies, otherwise that sustainability will be undermined.

Little regard has been given to the costs to producers of the changes proposed.

*Relief sought:* The use of frost fans should remain a permitted activity.

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 81**

The broad reason for the submission is to provide helpful, objective and independent input so as to promote the reduction of adverse environmental noise effects on the health of people and communities pursuant to the New Zealand Public Health and Disability Act 2000 and the Health Act 1956.

The sole objective of the submission is to improve the provisions relating to noise for the people and communities of the District and to promote efficient administration of those provisions by the Council.

*Relief sought:* None specified

**Netherwood Lodge Trust ( Adele Dawkins) - Submitter #: 5 Submission Point : 15**

The proposed changes do nothing to address existing problems. While the changes may help in the future there is little or no protection for existing activities, property and people outside of the grape industry.

*Relief sought:* The Council Compliance department should be adequately funded and staffed so that laws can be policed strictly instead of the odd complaint being dealt with.

**Netherwood Lodge Trust ( Lindsay Dawkins) - Submitter #: 6 Submission Point : 22**

The proposed changes may help in the future but do not address existing problems. There is insufficient protection for existing activities outside of the grape industry.

*Relief sought:* The Council Compliance department should be adequately funded to monitor the grape growing industry.

**Paul Bruckel - Submitter #: 21 Submission Point : 66**

It is imperative that a programme of compliance monitoring and enforcement is undertaken in conjunction with the plan change to reduce and then contain cumulative noise levels.

*Relief sought:* A programme of compliance monitoring and enforcement be undertaken in conjunction with the plan change to reduce and then contain cumulative noise levels.

**Burtergill Farm (2003) Limited ( Geoff van Asch) - Submitter #: 7 Submission Point : 27**

Oppose the following provisions:

- the change in status from permitted to controlled;
- the lowering in decibel level from 60 to 55 dB LAeq;
- no frost fan shall be located within 500 metres of an Urban Residential, Township Residential, Rural Residential or Marlborough Ridge Zone; and
- the list of matters the Council may impose conditions on.

Reasons for opposing these provisions are as set out in the New Zealand Winegrowers submission.

The submitter supports the submission made by New Zealand Winegrowers.

**Relief sought:** Either withdraw the plan change

OR

If the Council proceeds with the plan change then the amendments requested are those set out in the submission of New Zealand Winegrowers.

**Clintondale Trust - Whyte Trustee Company Limited ( David A Whyte) - Submitter #: 12 Submission Point : 119**

The submitter opposes the proposed plan change in its entirety except where otherwise explicitly stated.

The number of complaints received by the Council seems disproportionate to the number of existing frost fans (1000+). It is unconscionable the Council's solution to the issue is to introduce new rules with limited investigation or appreciation of whether current rules could be effective if properly enforced.

Other options of frost protection are not always viable.

The Plan's objectives and policies establish unequivocal direction that the primary production capacity of rural land is to be protected. Rural activities, which are legitimately established should not be expected to relocate to accommodate residential activity. Residential activities should only be permitted to establish where clear steps have been taken to mitigate any adverse effects.

**Relief sought:** 1. The plan change be withdrawn until such time as the recommended forensic enforcement / monitoring methodology has been developed and thereafter implemented until such time as sufficient, certain, consistent and comprehensive information has been secured.

2. Once the information has been collated an independent analysis by a qualified entity with experience in the field be secured.

3. Upon receipt of the analysis, in the event the Council determines to seek changes to the plans, a comprehensive evaluation be conducted and reported in full compliance with section 32.

4. If the Council proceeds with Plan Change 58, changes are sought as detailed elsewhere in the submission and all other proposed amendments arising from the plan change are to be withdrawn.

5. Avoid a further plan change by adopting the methods of implementation provided in Chapter 22.4 Noise specifically:

- (a) Encouraging use of voluntary guidelines and best practice.
- (b) Monitoring of noise to establish annual and seasonal profiles.
- (c) Support and facilitate research into improving frost protection technology.
- (d) Consultation to mitigate and reduce reverse sensitivity conflicts.

6. Include a statement on Land Information Memorandum and Project Information Memorandum advising prospective resident of the likelihood of disturbance from primary production activities in rural zones.

**Richard Ryan - Submitter #: 26 Submission Point : 123**

Support the plan change but with amendment. The reason for wanting changes are that the submitter has approximately 63 wind fans across from his property and approximately 200 within 5 kilometres and this is unbearable.

*Relief sought:* 1. Prior to the season starting for frost fans, employ and train appropriate numbers of people to respond immediately to noise complaints. Noise levels should be recorded and a copy given to complainants.

2. Fines of a minimum of \$5000 per night be imposed for each fan breaching noise levels after recorded excess levels.

**Waihopai Holdings Limited ( Amy Elizabeth Murphy) - Submitter #: 22 Submission Point : 78**

Greater certainty on which frost fans the plan change applies to is required. Is particularly concerned that the new rule may apply in situations where existing fan blades are replaced with new blades to reduce noise emissions. The submitter believes that this would create a disincentive for existing frost fan owners to upgrade to new technology.

*Relief sought:* That a provision be included in any change to the Plan to set out which frost fans the new rules apply to.

**PC 58 - Whole Plan Change**

**Benmorven Estate Family Trust ( Lex Hayward) - Submitter #: 4 Submission Point : 20**

Oppose the plan change except for the provision which requires new houses in close proximity to frost fans to be acoustically insulated to a new standard. The section 32 analysis shows the best option is the 'do nothing' option.

The proposed change will do nothing to alleviate the existing cause of complaints and has no effect on helicopters, which are probably the noisiest form of frost control.

If the plan change is implemented it could directly affect the very successful viticulture industry in Marlborough.

*Relief sought:* The best option is the do nothing option apart from requiring new houses in close proximity to frost fans to be acoustically insulated to a new standard.

**Blair Gibbs - Submitter #: 35 Submission Point : 149**

The following provisions are opposed:

- the change in status from permitted to controlled;
- the lowering in decibel level from 60 to 55 dB LAeq;
- that no frost fan shall be located within 500 metres of an Urban Residential, Township Residential, Rural Residential or Marlborough Ridge Zone; and
- the list of matters the Council may impose conditions on.

The submitter supports the submission made by New Zealand Winegrowers and opposes each of the provisions listed above for the reasons provided in that submission.

*Relief sought:* Either withdraw the plan change until the programme of forensic monitoring is completed;

OR

If the Council proceeds with the plan change then the amendments requested are set out in the submission of New Zealand Winegrowers.

**Constellation New Zealand Limited ( Ollie Davidson) - Submitter #: 19 Submission Point : 99**

Oppose the plan change. There is little explanation or analysis to support claims by the Council the existing rules are too difficult to enforce. The submitter does not support the plan change as an information gathering exercise and the change should be put on hold until the Council has completed the assessments and monitoring necessary to make a full and informed decision.

The Plan lacks any reverse sensitivity mechanisms. The land use which has changed is the subdivision of rural land into rural residential developments. The plan change is a response to a limited number of complaints.

**Relief sought:** 1. Clarify how the Council intends to demonstrate non-compliance of a proposed machine prior to its installation given the Council's assertion that it is currently unable to enforce the current noise standards.

2. Withdraw the plan change until the programme of forensic monitoring is complete.

**Dashwood Corner Vineyard Limited ( Geoff van Asch) - Submitter #: 8 Submission Point : 28**

Oppose the following provisions:

- the change in status from permitted to controlled;
- the lowering in decibel level from 60 to 55 dB LAeq;
- no frost fan shall be located within 500 metres of an Urban Residential, Township Residential, Rural Residential or Marlborough Ridge Zone; and
- the list of matters the Council may impose conditions on.

Reasons for opposing these provisions are as set out in the New Zealand Winegrowers submission.

The submitter supports the submission made by New Zealand Winegrowers.

**Relief sought:** Either withdraw the plan change

OR

If the Council proceeds with the plan change then the amendments requested are those set out in the submission of New Zealand Winegrowers.

**David C Kerr - Submitter #: 3 Submission Point : 10**

A number of changes are suggested.

**Relief sought:** 1. Close loop hole - normal agricultural practices do not include frost fans.

2. Cumulative effects be considered e.g. Marshall Day Acoustic report suggestion that total noise limit of all machines in the vicinity running.

3. Audible characteristic 5 dBA penalty be imposed.

4. Existing fans require a separation of at least 300 metres (and up to 400 metres) to achieve 55 dBA if this can't be achieved, e.g. any machine is closer, alternative methods have to be used to equal the 300 metre clear zone around the house.

5. Mechanical governor placed on injector pump of engine to regulate fan blade speed.

6. 100 metre rule in any form discarded as this rule gives the grower the opportunity to legally compromise NZ Standard for noise compliance.

7. Absentee landowners get yearly notice of any performance concerns.

8. All machines within 300 metre zone automatically require compliance testing at notional boundary.

9. Existing houses predating fans within 300 metres and all associated buildings on property be exempt from any new building codes related to the fan.

**Des Ashton - Submitter #: 1 Submission Point : 1**

Support the plan change. The submission recognises the need for winegrowers to protect their crops but from a prescribed and measured framework.

**Relief sought:** Support the provisions that provide for frost fans being a controlled activity and the Council reserving control over recording information about use of frost fans and monitoring requirements.

**Fairhall Downs Estate Wines ( Stuart T. Smith) - Submitter #: 17 Submission Point : 80**

Support the New Zealand Winegrowers submission.

**Relief sought:** Support the New Zealand Winegrowers submission.

**Guy Lissaman - Submitter #: 33 Submission Point : 144**

The submitter supports the submission made by New Zealand Winegrowers. The submitter opposes each of the provisions listed in his submission for the reasons provided in the new Zealand Winegrowers submission.

**Relief sought:** The submitter supports the submission made by New Zealand Winegrowers.

**Jane Buckman and John Kershaw ( ) - Submitter #: 34 Submission Point : 148**

The following provisions are opposed:

- the change in status from permitted to controlled;
- the lowering in decibel level from 60 to 55 dB LAeq;
- that no frost fan shall be located within 500 metres of an Urban Residential, Township Residential, Rural Residential or Marlborough Ridge Zone; and
- the list of matters the Council may impose conditions on.

Retrospectively changing the provisions goes against natural justice and if enacted unchanged will impact detrimentally on operation of the submitters and others vineyards. Alternate water based frost protection is not available to them and using frost fans is critical to their business.

Increasing separation distances to 500 metres from 300 metres will make protecting an irregular shaped block impractical. All new rural residents need to be made aware that in moving to a productive working environment it is a 24/7 operation, unlike a purely urban existence.

The submitters support the submission made by New Zealand Winegrowers and oppose each of the provisions listed above for the reasons provided in that submission.

**Relief sought:** Either withdraw the plan change until the programme of forensic monitoring is completed;

OR

If the Council proceeds with the plan change then the amendments requested are those set out in the submission of New Zealand Winegrowers.



**Janet and Wayne Boyce - Submitter #: 36 Submission Point : 150**

The changes proposed are supported as currently the location to a residential dwelling in a rural zone is unreasonable. The submitter accepts reasonable noise in a rural area as part of the lifestyle but not to the extent of unacceptable noise levels during hours of early morning.

The current monitoring or lack of it is not acceptable.

The current decibel level is unacceptable for existing use of neighbouring properties to operate their business e.g. stock are stressed when frost fans are operating.

**Relief sought:** 1. Monitoring frost fans is a must to ensure all fans comply.

2. All frost fans should obtain a resource consent to enable conditions to be imposed.

3. The lowering of the decibel level is recommended.

4. Frost fans installed near dwellings should be of a type that are more in harmony with neighbours and have less impact on the environment and those residing or managing stock.

**Kathryn Deane Rees - Submitter #: 11 Submission Point : 51**

Support the plan change.

**Relief sought:** Support

**Little Oasis Vineyard Limited ( Geoff van Asch) - Submitter #: 9 Submission Point : 29**

Oppose the following provisions:

- the change in status from permitted to controlled;
- the lowering in decibel level from 60 to 55 dB LAeq;
- no frost fan shall be located within 500 metres of an Urban Residential, Township Residential, Rural Residential or Marlborough Ridge Zone; and
- the list of matters the Council may impose conditions on.

Reasons for opposing these provisions are as set out in the New Zealand Winegrowers submission.

The submitter supports the submission made by New Zealand Winegrowers.

**Relief sought:** Either withdraw the plan change

OR

If the Council proceeds with the plan change then the amendments requested are those set out in the submission of New Zealand Winegrowers.

**Malcolm Maclean - Submitter #: 13 Submission Point : 53**

The notation used to denote noise levels is given as dB LAeq throughout the plan change. This is incorrect.

**Relief sought:** All noise levels should be represented as dBA Leq.

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 82**

Supports the proposed plan change, but with the amendments proposed in the detailed submissions.

**Relief sought:** Supports the proposed plan change, but with the amendments proposed elsewhere in the submission.

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 30**

**GENERAL**

The Plan Change represents a stop-gap in response to complaints centred around a limited number of 'hot spots'. There is no evidence that the new provisions will have any impact on the 'hot spots' driving the change yet the provisions will apply to all rural land use. In the time it will take the Council to undertake the research deemed necessary there will be a proliferation of new frost fans that would exacerbate the existing dissatisfaction of their use in the 'hot spots' in question. NZW consider the Council's response is not proportionate to the scale of issue and therefore conflicts with s31 of RMA.

The scope for reverse sensitivity conflicts arising with new rural residents would be significantly reduced if they were made aware that in moving into a productive working environment there will be effects from permitted uses that are part of that environment.

**RESOLVING ENFORCEMENT ISSUES WITH CURRENT FRAMEWORK**

The section 32 report fails to clearly identify what the enforcement difficulties are and why they cannot be resolved. No evidence is provided to support the Council's assumptions relating to cumulative noise effects. The Council would be in a much better position to address the issue by resolving its enforceability issues within the current rule framework than to subject the region's rural businesses to further regulatory restrictions.

**Relief sought:** 1. Either withdraw the plan change until the programme of forensic monitoring is completed;

OR

Should the Council proceed with the plan change then amendments are requested as set out in the remainder of the submission of New Zealand Winegrowers.

2. The Council should consider frost fan issues together with the wider reverse sensitivity issues in the rural productive zone.

3. Consider using the LIM process for informing new rural residents about the rural working environment into which they are moving and related effects that can be experienced from permitted activities.

4. The Council review its conclusion that the current framework is unenforceable on the basis of cumulative noise effects.

**Peter Constantine - Submitter #: 24 Submission Point : 109**

Except to the extent identified in this submission, the plan change is supported because it introduces provisions into the Plan that addresses a resource management issue of some moment and that it is necessary to address if the purpose of the Resource Management Act is to be attained.

**Relief sought:** Except as required by the amendments set out in the submission, confirm the proposed plan change.

**Terra Vitae Vineyards Limited ( Alan O'Sullivan) - Submitter #: 14 Submission Point : 64**

The submitter states their vineyards have no immediate neighbours and expect not to have to go through a notification process where the position of fans is compliant with the Plan.

**Relief sought:** A timely and inexpensive process should be put in place for compliant installations of frost fans.

**Waihopai Holdings Limited ( Amy Elizabeth Murphy) - Submitter #: 22 Submission Point : 67**

Oppose the following provisions:

- the change in status from permitted to controlled;
- the lowering in decibel level from 60 to 55 dB LAeq; and
- noise being monitored at the notional boundary.

Reasons for opposing these provisions are as set out in the New Zealand Winegrowers submission.

The submitter supports the submission made by New Zealand Winegrowers.

*Relief sought:* Either withdraw the plan change until the programme of forensic monitoring is completed.

OR

If the Council proceeds with the plan change then the amendments requested are those set out in the submission of New Zealand Winegrowers.

**Wither Hills Vineyards Marlborough Limited ( Stephanie Bond) - Submitter #: 25 Submission Point : 121**

The plan change is generally opposed because it does not promote sustainable management of resources, will not enable efficient use and development of resources and will not enable economic wellbeing of people and communities. A short term fix is created but results in short to long term uncertainty for a large sector of the rural community.

The changes proposed are not the most appropriate way to achieve the objectives and policies of the Plan relating to rural areas.

*Relief sought:* The plan change be declined in its entirety.

**Rural Res - Rural Residential Zone**

**C J Smith - Submitter #: 2 Submission Point : 7**

Support and oppose the provisions for the Rural Residential Zone as per comments for the rules for the Rural 3 and 4 Zones.

*Relief sought:* Amend provisions for the Rural Residential Zone as per changes sought for the Rural 3 and 4 Zones.

**Clintondale Trust - Whyte Trustee Company Limited ( David A Whyte) - Submitter #: 12 Submission Point : 104**

Support the rule but with amendments. To ensure the adequacy and enforceability appropriate noise installation standards should be specified. The certification should be required as part of the building consent process and entered onto the Land / Project Information Memorandum files.

*Relief sought:* Add a new Rule 31.1.5.1 as follows:

"(a) Any new dwelling house, visitor accommodation or other habitable building located within 500 metres of any frost control fan shall provide as part of the building consent process an acoustic certificate to the Council by a suitably qualified and experienced acoustic engineer to confirm that the building work has been designed, specified and constructed to achieve an insulation rating of  $DnTw + Ctr > 30\text{dBA}$  for the building envelope as described within NZS 1276.1:1999 acoustics-rating of sound insulation in buildings and of building elements Part 1: Airborne Sound Insulation.

(b) This rule shall also apply to any alteration of an existing dwelling house, visitor accommodation or other habitable building located within 500 metres of any frost fan, where a new bedroom forms part of the alteration. Only the new bedrooms must be treated in accordance with (a) above.

(c) For the purpose of this rule, 'frost fan' includes an existing frost fan permitted by right or a proposed frost fan for which an approved building consent and/or resource consent has been granted."

**Malcolm Maclean - Submitter #: 13 Submission Point : 60**

Oppose this rule as to acoustically insulate a bedroom in a dwelling to a level based on the proximity to only one frost fan, does not take into account the cumulative noise from other frost fans. Designing a dwelling to achieve a level of attenuation less than 30 dBA Leq allows for the installation of further fans in the surrounding environment and supports the potential for future development of agricultural use of frost fans.

Expanding the sphere of potential frost fan noise sources to 1000 metres and including all fans in this sphere, means the cumulative impacts are taken into account and residents will be protected.

*Relief sought:* Amend proposed rule 31.1.5.1 as follows:

"(a) Any new dwellinghouse, visitor accommodation or other habitable building located within 1000 metres of any frost fan(s) shall be designed and constructed to ensure that the noise level inside any bedroom of the dwelling shall not exceed 27 dBA Leq with all frost fans within 1000 metres operating when the doors and windows are closed. Compliance with this standard shall be demonstrated by the production of a design certificate from an appropriately qualified and experienced acoustic engineer

(b) This rule shall also apply to any alteration of an existing dwellinghouse, visitor accommodation or other habitable building located within 1000 metres of any frost fan(s), where a new bedroom forms part of the alteration. Only the new bedroom has to be treated in accordance with part (a) of this rule.

(c) For the purpose of this rule, 'frost fan' includes a proposed frost fan for which an approved building consent and/or resource consent has been granted."

**Meadowbank Holdings Limited ( William Grigg) - Submitter #: 27 Submission Point : 129**

Producers should have the ability to protect a far greater portion of their land in accordance with the Plan's policy framework which gives significant recognition to protecting the productive capacity of rural areas. If people wish to live in a rural area the onus should be on them to build a dwelling that meets the 30 dB criteria.

*Relief sought:* 1. The rule should exclude dwellings on the property that frost fans are operating on.

2. The rule should include that any dwelling house or other habitable building built in a rural residential zone should be built so that the noise level inside any bedroom of the dwelling should not exceed 30 dB from a frost fan 100 metres away.

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 38**

The rule is supported with minor wording changes. NZW appreciates that by including this rule the Council has made an effort to protect rural industry from reverse sensitivity.

*Relief sought:* Amend proposed Rule 31.1.5.1 - Noise Sensitive Activities as follows:

"(a) Any new dwelling house, visitor accommodation or other habitable building located within 300 metres of any frost control fan shall provide an acoustic certificate to the Council by a suitably qualified and experienced acoustic engineer to confirm that the building work has been designed and specified to achieve an insulation rating of  $DnTw + Ctr > 30\text{dBA}$  for the building envelope as described within NZS 1276.1:1999 acoustics-rating of sound insulation in buildings and of building elements Part 1: Airborne Sound Insulation.

(b) This rule shall also apply to any alteration of an existing dwelling house, visitor accommodation or other habitable building located within 300 metres of any frost fan, where a new bedroom forms part of the alteration. Only new bedrooms must be treated in accordance with (a) above.

(c) For the purpose of this rule, 'frost fan' includes a proposed frost fan for which an approved building consent and/or resource consent has been granted."

**Sec 32 - Section 32 Report**

**C J Smith - Submitter #: 2 Submission Point : 9**

It is unclear as to whether the person described as an 'acoustical engineer' (page 24 para 2) exists in New Zealand. Nor is it clear as to what is an appropriate 'design certificate'. Clarification should be sought from IPENZ on what would be an 'appropriately qualified and experienced acoustical engineer'

*Relief sought:* A suitable definition of an 'appropriately qualified and experienced acoustical engineer' be included to the schedule of changes.

**Clintondale Trust - Whyte Trustee Company Limited ( David A Whyte) - Submitter #: 12 Submission Point : 120**

The submitter formally challenges, in accordance with section 32A(1), the proposed new rules on the grounds that section 32 has not been adequately complied with. The submitter states the requirements of section 32 have not been complied with in terms of sections 32(3)(b), 32(4) and 32(5)

The section 32 report fails to adequately consider, evaluate and report on the costs:

- of a further plan change at a later date to take into account the information to be gathered compared to a single plan change.
- to viticulturists from the uncertainty as to whether or not a further plan change with more restrictive rules is imminent.
- to a grower resulting from the proposed setback distances.
- resulting from two different control regimes for frost fans.
- of the new rules to be introduced.

No mention is made of the risk of acting or not acting in respect of the change of definition or the six new rules.

*Relief sought:* The section 32 report be withdrawn until such time as a full and proper evaluation in compliance with section 32 has been completed and adequately reported.

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 46**

There is little explanation or analysis in the section 32 report to support the assumption that existing provisions are not effective. NZW does not support the plan change as an information gathering exercise. It is a costly, uncertain and unscientific method by which to gather information. NZW is supportive of a science based set of rules which provide certainty to growers about what is required to comply. The plan change will neither address the issue of rural amenity conflict nor will it give effect to the Wairau/Awatere Plan's policies to protect the productive capacity of rural land. There is no discussion of this in the section 32 report.

NZW state that the section 32 report fails to establish that the Plan Change is the 'most appropriate' method to achieve the objectives and the evaluation of the risks of acting or not acting is cursory. In stating that the process is a two stage process with a further plan change likely, NZW considers that the costs of a further additional plan change at a later date and the uncertainty to growers that will result from not knowing if a further plan change with additional restrictions is imminent has not been adequately discussed or considered in terms of the requirements of Section 32.

*Relief sought:* If the Council believes there is inadequate information on the effects of frost fans then the plan change should be put on hold until such time as the assessments and monitoring considered necessary to make a full and informed decision on the way forward is completed.

**Wither Hills Vineyards Marlborough Limited ( Stephanie Bond) - Submitter #: 25 Submission Point : 122**

The plan change is not supported by a sufficient section 32 analysis. There has been inadequate investigation as to whether the changes are appropriate. No regard has been had in notifying the changes to the actual or potential effects of the activity on the environment.

The Council has failed to consider or obtain sufficient information:

- on the costs to the rural community arising from additional regulatory tests.
- on the requirement for the community to seek resource consent.
- from a noise expert to determine whether the changes are appropriate.

Using the plan change process to insert rules to enable the Council to gather information about noise from frost fans rather than the Council undertaking a proper technical evaluation is ultra vires.

*Relief sought:* The plan change be declined in its entirety.

## W26.0 - Definition

### **C J Smith - Submitter #: 2 Submission Point : 2**

No mention is made to the prime mover (drive unit) powering the fan. The support structure of the fan is referenced but not the structure related to the drive unit.

*Relief sought:* The definition needs expanding to include the drive unit as the drive unit can have its own audible characteristic noise/noise level, which might be completely different from the fan noise. The noise level of the drive unit must be considered together with the fan blade noise.

### **Clintondale Trust - Whyte Trustee Company Limited ( David A Whyte) - Submitter #: 12 Submission Point : 101**

There is no reference to the device being fixed, static or mobile nor to the motive power of the frost fan. It is not clear if portable propeller model fans or the tractor drawn types, which both have noise characteristics different to a traditional frost fan are included within the rule.

In terms of the motive power unit of the frost fan this motor produces noise different to that of the frost fan rotor. Including the motive power unit in the definition would pre-empt the use of the motor noise to mask or alter the frost fan noise characteristic.

*Relief sought:* Amend the definition as follows:

"Frost fan means a land based device, designed or adapted to control frost by fanning warmer air over potentially frost-affected surfaces, and includes the motive source and support structure."

### **Malcolm Maclean - Submitter #: 13 Submission Point : 54**

Support

*Relief sought:* Support

### **Michael Hyson - Submitter #: 28 Submission Point : 131**

*Relief sought:* To include all frost fans the definition must include land based device 'fixed or mobile'.

### **Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 84**

The phrase "to control frost" is imprecise as the purpose is to mitigate damage from frost. Frost conditions cannot be controlled.

Inclusion of the words "support structure" is noted in the definition but the definition excludes from consideration the power source, typically a diesel engine. Elsewhere in New Zealand and during the Waihopai Valley noise testing in May 2009 it was demonstrated that a power source can be as significant an issue at 300 metres distance as the aerodynamic noise caused by the fan blades. Note power sources may be permanent or temporary installations.

*Relief sought:* 1. Amend by deleting the words "control frost" and substitute the words, "to mitigate frost damage".

2. Amend by addition to the definition of "frost fan," after the words "support structure," the words, "and power source".

### **New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 32**

*Relief sought:* Add the proposed definition.

### **W30.1.4.2.3 - Wind machines for Frost Control**

Oppose the deletion of the permitted activity status for frost fans. The retention of the permitted activity status is sought with amendment.

#### DECIBEL LEVEL

In lowering the decibel level from 60 to 55 dBA as proposed in the plan change, there is no reference to deletion of the additional 5 dB adjuster for special audible characteristics. This means the proposed noise limit is effectively 50dBA. This limit has not been adequately justified.

The Malcolm Hunt report compiled as an independent acoustic investigation for the Hurunui District Council's Proposed Plan Change 18 found the various models of frost fans have variable levels of sound emission and sound qualities, meaning that there "is no consistent picture as to whether these sound characteristics can be classified as containing special audible characteristics' as described by New Zealand Standard NZS 6802". The report also referred to World Health Organisation (WHO) guidelines for community noise that recommend an internal 30 dBA level could be achieved with an outdoor noise level of 60 dBA Leq.

The noise limit should remain at 60 dB with the 5 dB penalty only being applied in appropriate cases of audible special characteristics established in respect of individual frost fans in situ by substantive scientific methodology in accordance with NZS 6802:2008.

#### NOTIONAL BOUNDARY

In the existing Plan notional boundary is defined as the boundary of a 20 metre zone created around a dwelling or nominated building for the purposes of measuring noise intrusion. A range of buildings could well be spread out over a wide area and the 20 metre exclusion zone extended from the most remote unit. As the rule for Noise Sensitive Activities is focussed at ensuring the noise level in any bedroom of the dwelling should not exceed 30 dB LAeq, the notional boundary could be considered as the external wall of the bedroom closest to the frost fan in question.

#### SOUND LEVEL MEASUREMENT

The 2008 standard involves the time averaged sound level over a measured time period and is generally stated in the measurement e.g. LAeq 10 min. This time period is significant in the case of frost fan noise measurement where the cyclic nature of the fan's operation imposed by the 360 degrees rotation of the fan's thrust direction. This results in the noise level/nature changing in level, modulation and characteristic at the location from where the measurement is taken. The measurement time period should be specified e.g. 60 dB LAeq 10 min, in order to remove the opportunity for conflicting interpretation.

#### START UP TEMPERATURE

The wording of the rule can be argued to mean that frost fans can be operated when the temperature in the vineyard is 2 degrees, no more, no less. Equally there is no indication as to where the temperature is established e.g. ground, canopy or frost fan tower level. The rule should be amended so that the frost fan only operates when the local air temperature falls to, or below 2 degrees centigrade, recorded at a height above ground level relevant to the bud height of the plants being protected.

#### SETBACK RULE

The existing setback rule requires frost fans to be located no closer than 500 metres to residential zones. The proposed plan change keeps this provision but specifies the actual zones (Marlborough Ridge, Township Residential, Rural Residential and Urban Residential). The setback rule seems anomalous if the noise standard is required to be achieved at 300 metres. The costs of this rule in terms of the extent of otherwise viable land that would be rendered unprotected by frosts have not been evaluated or established in the section 32 report.

In relation to the Marlborough Ridge Zone the zone was set up with its own set of standards. The current rule that provides for wind machines as a permitted activity but then does not allow them to be located closer than 500 metres to a residential zone is incongruous and untenable. The requirement for noise levels to be measured at 200 metres from the wind machine to achieve the 60 dBA standard negates the basis for the proposed lowering of the noise level standard in the plan change both within the Marlborough Ridge Zone or throughout the remainder of the rural zones. The equivalent rule for the Marlborough Sounds Plan only requires a setback from the Urban Residential Zone, this makes the proposed rule in the Wairau/Awatere Plan change inconsistent and unjustified. If any setback is imposed it should only be for the urban/rural interface.

Relief sought: Amend existing Rule 30.1.4.2.3 to read as follows:



"Operation of frost fans shall be a Permitted Activity provided the activity conforms to the following standards and terms:

(a) Noise from all frost fans operating cumulatively on a property shall not exceed 60dBA Leq 10 min when measured:

(i) At a distance of 300 metres from the frost fan(s); or

(ii) At the notional boundary of any existing dwelling, visitor accommodation or other habitable building (other than on the site which the frost fan is located), whichever is the least distance.

The sound levels shall be measured in accordance with the provisions of NZS 6801:2008 Acoustics - Environmental Noise.

For the purposes of this rule the notional boundary is defined as the external wall of the bedroom closest to the frost fan.

(b) Frost fans shall only be operated for frost protection and when the local air temperature on the vineyard drops to, or below, 2 degrees centigrade, recorded at a height above ground level relevant to the bud height of the plants being protected.

(c) Frost fans shall not be located within 300 metres of an Urban Residential Zone."

**Malcolm Maclean - Submitter #: 13 Submission Point : 55**

Support

*Relief sought:* Support

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 85**

Support the deletion of the existing provisions which have proved unsatisfactory and inadequate for the purpose originally intended.

*Relief sought:* Delete existing rule 36.1.4.2.4.

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 34**

NZW oppose a change in status from Permitted to Controlled. While a Controlled Activity status may provide some certainty to growers that a consent will be granted (subject to conditions), after further consideration of the proposed plan change including the reasoning for the proposed Controlled Activity status and our assessment of acoustic advice provided through other recent plan changes in other districts, it is not considered the most appropriate way to deal with the issue.

Permitted Activity status removes the unnecessary costs for growers and would allow for frost control fans where the effects are known to be acceptable to be established as of right. For those machines which are outside the Permitted Activity standards the Council would retain the ability for further assessment but also to decline the consent if the effects deemed that necessary.

**Relief sought:** Amend existing Rule 30.1.4.2.3 to read as follows:

"Operation of frost fans shall be a Permitted Activity provided the activity conforms to the following standards and terms:

(a) Noise from all frost fans operating cumulatively on a property shall not exceed 60 dBA Leq when measured:

- (i) At a distance of 300 metres from the frost fan(s); or
- (ii) At the notional boundary of any existing dwelling, visitor accommodation or other habitable building (other than on the site which the frost fan is located), whichever is the least distance.

(The 'notional boundary' should be unambiguously defined as the external wall of the bedroom closest to the frost fan in question.)

The sound levels shall be measured in accordance with the provisions of NZS 6801:2008 Acoustics - Environmental Noise.

(b) Frost fans shall only be operated for frost protection and when the air temperature on the vineyard drops to 2 degrees Celsius with the exception of:

- (i) Maintenance and testing purposes."

**W30.1.4.2.4 - Noise Sensitive Activities**

**Benmorven Estate Family Trust ( Lex Hayward) - Submitter #: 4 Submission Point : 21**

Support.

**Relief sought:** Support the provision which requires new houses in close proximity to frost fans to be acoustically insulated to a new standard.

**C J Smith - Submitter #: 2 Submission Point : 4**

Oppose this part of the plan change.

Clauses a) and b)

Measurement of noise levels with bedroom doors and windows closed might contravene section G4 of the NZ Building Code regarding ventilation for the occupants of dwellings. It cannot be assumed that people will have windows closed for sleeping when frost fans are operating.

Ventilation at prescribed rates must be provided by opening windows or by mechanical ventilation which will impose additional building costs and could also generate objectionable internal noise.

Clause c)

If frost fans require a building consent (for the fan or drive unit) then compliance with any noise requirements of the NZ Building Code will be required.

**Relief sought:** 1. Reconsider the rule in relation to the effect of the NZ Building Code on ventilation requirements and noise.

2. Clarification is needed as to whether Rural 3 and Rural 4 Zones are inclusive of Rural Township Zones. If not the rule needs expanding to encompass Rural Township Zone.

3. Clause c) is ambiguous and needs clarification as to what components are intended to require a building consent.

**Clintondale Trust - Whyte Trustee Company Limited ( David A Whyte) - Submitter #: 12 Submission Point : 103**

Support the rule but with amendments. To ensure the adequacy and enforceability appropriate noise installation standards should be specified. The certification should be required as part of the building consent process and entered onto the Land / Project Information Memorandum files.

**Relief sought:** 1. Add a new Rule 30.1.4.2.5 as follows:

"(a) Any new dwelling house, visitor accommodation or other habitable building located within 500 metres of any frost control fan shall as part of the building consent process provide an acoustic certificate to the Council by a suitably qualified and experienced acoustic engineer to confirm that the building work has been designed, specified and constructed to achieve an insulation rating of  $DnTw + Ctr > 30\text{dBA}$  for the building envelope as described within NZS 1276.1:1999 acoustics-rating of sound insulation in buildings and of building elements Part 1: Airborne Sound Insulation.

(b) This rule shall also apply to any alteration of an existing dwelling house, visitor accommodation or other habitable building located within 500 metres of any frost fan, where a new bedroom forms part of the alteration. Only the new bedrooms must be treated in accordance with (a) above.

(c) For the purpose of this rule, 'frost fan' includes an existing frost fan permitted by right or a proposed frost fan for which an approved building consent and/or resource consent has been granted."

2. The acoustics design certificate shall be entered on the Land / Project Information Memorandum files.

**Horticulture New Zealand ( Chris Keenan) - Submitter #: 20 Submission Point : 31**

Support

**Relief sought:** Retain rule

**Malcolm Maclean - Submitter #: 13 Submission Point : 56**

Oppose this rule as to acoustically insulate a bedroom in a dwelling to a level based on the proximity to only one frost fan, does not take into account the cumulative noise from other frost fans. Designing a dwelling to achieve a level of attenuation less than 30 dBA Leq allows for the installation of further fans in the surrounding environment and supports the potential for future development of agricultural use of frost fans.

Expanding the sphere of potential frost fan noise sources to 1000 metres and including all fans in this sphere, means the cumulative impacts are taken into account and residents will be protected.

**Relief sought:** Amend the rule as follows:

"(a) Any new dwellinghouse, visitor accommodation or other habitable building located within 1000 metres of any frost fan(s) shall be designed and constructed to ensure that the noise level inside any bedroom of the dwelling shall not exceed 27 dBA Leq with all frost fans within 1000 metres operating when the doors and windows are closed. Compliance with this standard shall be demonstrated by the production of a design certificate from an appropriately qualified and experienced acoustic engineer

(b) This rule shall also apply to any alteration of an existing dwellinghouse, visitor accommodation or other habitable building located within 1000 metres of any frost fan(s), where a new bedroom forms part of the alteration. Only the new bedroom has to be treated in accordance with part (a) of this rule.

(c) For the purpose of this rule, 'frost fan' includes a proposed frost fan for which an approved building consent and/or resource consent has been granted."

Support the provisions for reverse sensitivity designed to limit exposure of people to frost fan noise.

The key elements of how noise is measured and assessed are missing and reliance on a design certificate without reference to appropriate standards can lead to confusion, inequities and failure of the intended purpose of the rule. Certification without a standard to which certification is related is meaningless as there are many different possible acoustical criteria that might be applied. NZS 6802:2008 provides guidance on these measures (See section 8.6.9).

Reliance upon closed windows to meet acoustical indoor design limits must be complemented with alternative means of ventilation as required by the Building Code. This is a matter specified in NZS 6801:2008, section 6.2.2.

Provision needs to be included for consideration of circumstances where an alteration to a dwelling does not, having regard to the screening of the bedroom affected by other parts of the dwelling, require any treatment of the bedroom to meet the performance standard of being adequately isolated from noise arising from the operation of the frost fan.

Proposed clause (c) is supported consequentially renumbered (h) as below.

The defect can be remedied by amendment to revise the proposed rule using the guidance in NZS 6802:2008.

**Relief sought:** Amend by deleting the proposed rule paragraphs (a)-(c) and substitute the following or provisions to the like effect or by inclusion of the part related to ventilation in a new Appendix or elsewhere in the Plan:

#### "NOISE INSULATION

(a) Any bedroom in a building used as a dwelling house, visitor accommodation or other habitable building located within 300 metres of any frost fan shall be adequately isolated from noise arising from the operation of the frost fan.

(b) For the purposes of this rule, "adequately isolated" means the building shall be orientated, screened, sited, and acoustically insulated, to comply with the design sound levels set out in (c).

(c) The building envelope shall be designed and constructed to achieve the following sound insulation in any bedroom:  
DnT,w + Ctr > 30 dB

(d) Construction shall be in accordance with an acoustical design certificate signed by a suitably qualified and experienced acoustical engineer stating the design as proposed will achieve compliance with the above indoor design sound levels.

(e) Sub-clauses (a)-(d) shall in addition apply to any alteration to a habitable room used as a bedroom.

#### VENTILATION

(f) Indoor design sound levels in (c) above shall be achieved with windows and doors open unless adequate alternative ventilation means for fresh air from outside the building envelope is provided. Where bedrooms with openable windows providing natural ventilation are required to be closed to comply with an acoustical isolation requirement, an alternative supplementary source of fresh air is required to achieve a minimum distribution into the bedroom of 7.5 litres per second per person. Acoustical and ventilation requirements shall be met concurrently.

(g) Where approved alternative means of ventilation are provided the installation shall if supplied by a fan assisted mechanical ventilation system:

- (i) Enable the rate of airflow to be controlled across the range, from the maximum airflow capacity down to  $0.5 \pm 0.1$  air changes of outdoor air per hour in all bedrooms; and
- (ii) Limiting internal pressure to not more than 30 Pascals above ambient air pressure; and
- (iii) Being individually switched on and off by the building occupants, in the case of each

system; and

(iv) Creating no more than Leq 30 dBA in any bedrooms. Noise levels from the mechanical system(s) shall be measured at least 1 metre away from any diffuser.

If air conditioning plus mechanical outdoor air ventilation is used it shall:

(i) Provide 7.5 litres per second per person in all bedrooms;

(ii) Provide internal temperatures in bedrooms above not greater than 25 degrees Celsius at 5% ambient design conditions as published by the National Institute of Water and Atmospheric Research ("NIWA") (NIWA, Design Temperatures for Air Conditioning (degrees Celsius), Data Period 1991-2000), with all external doors and windows of the bedroom closed; and

(h) Compliance with the above ventilation performance standards shall be achieved by construction and operation in accordance with a ventilation design certificate signed by a suitably qualified ventilation engineer stating that the design as proposed will achieve compliance with the minimum performance standard. This certificate shall be submitted with the relevant application for resource consent or building consent.

(i) For the purpose of this rule, "frost fan" includes a proposed frost fan for which an approved building consent and/or resource consent has been granted.

#### DEFINITIONS AND STANDARDS

(DnT,w + Ctr): means the standardised level difference (outdoor to indoor) and is a measure of the airborne sound insulation provided by the external building envelope (including windows, walls, ceilings and floors where appropriate) described using DnT,w + Ctr as defined in the following Standards:

AS/NZS ISO 717.1:2004 Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation (using spectrum No.2).

ISO 140-5:1998 Acoustics - Measurement of sound insulation in buildings and of building elements Part 5: Field measurements of airborne sound insulation of facade elements and facades."

#### **New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 44**

The rule is supported with minor wording changes. NZW appreciates that by including this rule the Council has made an effort to protect rural industry from reverse sensitivity.

**Relief sought:** Add a new Rule 30.1.4.2.5 as follows:

"(a) Any new dwelling house, visitor accommodation or other habitable building located within 300 metres of any frost control fan shall provide an acoustic certificate to the Council by a suitably qualified and experienced acoustic engineer to confirm that the building work has been designed and specified to achieve an insulation rating of  $DnT_w + Ctr > 30$  dBA for the building envelope as described within NZS 1276.1:1999 acoustics-rating of sound insulation in buildings and of building elements Part 1: Airborne Sound Insulation.

(b) This rule shall also apply to any alteration of an existing dwelling house, visitor accommodation or other habitable building located within 300 metres of any frost fan, where a new bedroom forms part of the alteration. Only new bedrooms must be treated in accordance with (a) above.

(c) For the purpose of this rule, 'frost fan' includes a proposed frost fan for which an approved building consent and/or resource consent has been granted."

#### **W30.2.1 - Controlled Activities**

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 87**

Supports the addition of this item. The words "use of a frost fan" would include operation of the fan, and power source regardless of the purpose. This approach is strongly supported as any attempt to refine the terminology further by means of an inclusive or exclusive list of types of operation would probably never be comprehensive enough and would allow technical or legal argument about intentions of the operator, a matter that would cause monitoring difficulties, and could not be proved to the standard required for any necessary enforcement proceedings.

*Relief sought:* Retain provision or words to the like effect.

**W30.2.9 - Erection and Use of Frost Fans**

**Guy Lissaman - Submitter #: 33 Submission Point : 145**

If the Council is having difficulty in enforcing the current noise standards it is hard to understand how it intends to demonstrate non-compliance of a frost fan prior to its installation. Permitted activity status allows frost fans to be installed where the effects are known to be acceptable without unnecessary costs associated with their resource consent process.

*Relief sought:* There be no change in status from permitted to controlled.

**Horticulture New Zealand ( Chris Keenan) - Submitter #: 20 Submission Point : 3**

Oppose a controlled activity status for frost fans in rural zones.

Advice sought from Dr Malcolm Hunt as part of Hurunui District Council's recent plan change process for frost fans concluded that a permitted activity with appropriate standards can provide for an adequate level of amenity.

*Relief sought:* 1. Include a permitted activity rule which provides for the use of frost fans where:

- A level of LAeq 60 dB be exceeded within 100 metres from the notional boundary of dwellings in different ownership in the Rural 3 and 4 Zones.
- The frost fan shall only be operated for frost protection when the air temperature in the area of the crop drops to 2 degrees C.
- Provisions for acoustic installation in new dwellings.

Sound levels shall be measured in accordance with NZS6801:2008 Acoustic Measurement of Sound and assessed in accordance with the provisions of NZS6802:2008 Acoustics - Environmental Noise.

- The frost fan may be operated during daytime outside of frost conditions for maintenance purposes only.

2. Where the standards are unable to be met, the frost fan will be assessed as a Restricted Discretionary Activity. Include a Restricted Discretionary Activity Rule for frost fans with the following matters of discretion:

- Location of frost fan
- Operational requirements of the frost fans
- Speed of frost fan
- Recording information
- Monitoring requirements.

**Kevin Eaton and Sara Stringer ( ) - Submitter #: 37 Submission Point : 11**

*Relief sought:* No frost fan to be installed any closer than 300 metres from any boundary.

**Lions Back Vineyard ( Andrew Hammond) - Submitter #: 30 Submission Point : 136**

The provision is opposed as the submitter has existing frost fans and doesn't want those to be made a controlled activity.

*Relief sought:* Oppose frost fans being made a controlled activity.

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 88**

Support the proposed new rule status as a controlled activity because this provides for site-by-site consideration and allows the consent authority to impose conditions appropriate to the circumstances.

*Relief sought:* Retain provision or words to the like effect.

**Paul Bruckel - Submitter #: 21 Submission Point : 36**

The cumulative noise of multiple frost fans will exceed that allowed for individual machines by the plan change. The rule should therefore deal with the cumulative noise effects of all machines, as measured at a dwelling.

*Relief sought:* 1. Change the rule to read:

"Cumulative frost fan noise shall not exceed 55bBA Leq (or 50dBA Leq where special audible characteristics exist) when measured at the notional boundary of any existing dwelling, visitor accommodation or other habitable building (other than on the property on which the property on which the frost fan is situated."

2. Delete "at a distance of 300 metres from the device; or".

**Peter Constantine - Submitter #: 24 Submission Point : 111**

There is an acknowledged need for scheduled maintenance of frost fans if optimum performance is to be achieved. Further, the proposed plan changes make reference to maintenance as a matter over which Council reserves control and may impose conditions. It is therefore appropriate that "maintenance" is part of the description of the activity to which the proposed suites of rules apply.

*Relief sought:* Delete the second sentence in proposed rule and replace with the following:

"The construction, use and maintenance of a frost fan is a Controlled Activity provided that the activity conforms to the following standards and terms:"

**Richard Ryan - Submitter #: 26 Submission Point : 124**

Support the plan change but with amendment.

*Relief sought:* 1. Restrict all frost fans to a minimum of 185 metres from their boundary where houses are located within 3 kilometres of frost fans.

2. Resource consent is needed before erecting fan towers, and this is publicly notified to all residents in that area for consultation, queries, objections etc.

3. Noise monitoring levels set at 35 decibels inside houses in proximity or noise objectors, whether the house is noise proofed or not.

**Villa Maria Estate Limited ( Ollie Powrie) - Submitter #: 18 Submission Point : 96**

Oppose the plan change. The change from permitted to controlled is likely to add significant time delays and costs. Permitted activity status removes the unnecessary costs for growers associated with the resource consent process.

*Relief sought:* Frost fans should continue to be a permitted activity unless a set of standards are not met.

**Waihopai Holdings Limited ( Amy Elizabeth Murphy) - Submitter #: 22 Submission Point : 72**

Oppose the change in status of frost fans from permitted to controlled. It is problematic to establish compliance with noise standards prior to the frost fan being erected. Noise emissions from a frost fan cannot be definitively determined until after a fan is erected, installed and tested as each site is unique and there are a number of factors that play a part in the actual noise emissions of a particular fan.

*Relief sought:* That frost fans remain a permitted activity.

**W30.2.9.1 - Standards and Terms**



A known issue is the need for maintenance testing of frost fans. Such testing should be restricted to defined daylight hours and the period 8am - 5pm on any day except weekends and on any public holiday is recommended as appropriate. The proposed rule makes no provision for this and such provision is necessary

*Relief sought:* Add a new rule sub-clause as follows:

"30.2.9.1.5 - No frost fan shall be operated for the purposes of testing mechanical or electrical components of the installation outside the hours of 8am - 5pm on any day except weekends and on any public holiday."

### **W30.2.9.1.1 - Noise**

#### **C J Smith - Submitter #: 2 Submission Point : 5**

Oppose this part of the plan change. Irrespective of any separation distance for frost fans from dwellings, there should be a 'no go zone' for fans in relation to established townships, towns, villages and similar type communities to minimise both noise and visual impacts. A 500 metre minimum setback is suggested.

*Relief sought:* Add another standard to address the situation of separation distance from small established communities for noise and visual impact of frost fans.

#### **Constellation New Zealand Limited ( Ollie Davidson) - Submitter #: 19 Submission Point : 100**

1. The Plan already incorporates a 5 dB adjuster for special conditions but the plan change does not remove the operation of this provision and in effect the noise level could be enforced at 50 dB.

The Malcolm Hunt report reviewed World Health Organisation guidelines for community noise and recommended that the internal 30 dBA level could be achieved with an outdoor noise level of 60 dBA Leq.

*Relief sought:* 1. Leave the decibel level at 60 dB Laeq with a 5 dB adjuster for special conditions.

2. The term 'notional boundary' be unambiguously defined in order to limit the area of productive land affected and be defined as the external wall of the bedroom closest to the frost fan in question.

#### **Fairhall Downs Estate Wines ( Stuart T. Smith) - Submitter #: 17 Submission Point : 71**

The existing Plan defines notional boundary as the boundary of a 20 metre zone created around a dwelling or nominated building for the purpose of measuring noise intrusion.

*Relief sought:* The definition of 'notional boundary' should be unambiguously defined to limit the impact on productive land affected. As the issue is with sleep disturbance, the notional boundary should be defined as the external bedroom wall closest to the frost fan.

#### **Gary B Jones - Submitter #: 31 Submission Point : 140**

The rule should be amended to include existing frost fans as well as new ones erected.

*Relief sought:* Amend the rule to read:

"Noise from an 'existing or new' frost fan should ..."

**Guy Lissaman - Submitter #: 33 Submission Point : 147**

Lowering the decibel limit needs to be justified by strong scientific evidence and a peer review process which hasn't been undertaken.

The notional boundary needs to be clearly defined in order to limit the area of productive land affected. If the focus is on the noise level in any bedroom in a dwelling, then it seems prudent that the external wall of the bedroom closest to the frost fan in question be used as the notional boundary.

*Relief sought:* 1. No change in decibel level until scientific research has been conducted and peer review completed to justify a change.

2. Clearly define the notional boundary as the external wall of the bedroom in a dwelling on a neighbouring property closest to the frost fan in question.

**Kathryn Deane Rees - Submitter #: 11 Submission Point : 52**

Support except that an addition is needed that includes the cumulative effects.

*Relief sought:* The cumulative effect of noise from multiple frost fans should also be included and taken into account when assessing the effect on dwelling houses etc that are nearby.

**Kevin J A Little - Submitter #: 16 Submission Point : 69**

All noise making devices should be counted collectively as this would give all an even playing field.

*Relief sought:* Delete 55 dBA at notional boundary and insert 30 dBA in a neighbour's bedroom and apply cumulatively.

**Kevin Eaton and Sara Stringer ( ) - Submitter #: 37 Submission Point : 12**

*Relief sought:* Noise level to be no higher than 50 decibels at any boundary or 20 decibels in a bedroom.

**Lions Back Vineyard ( Andrew Hammond) - Submitter #: 30 Submission Point : 137**

The submitter opposes the rule as in their area the only dwellings are those of frost fan operators.

*Relief sought:* Oppose the rule.

**Malcolm Maclean - Submitter #: 13 Submission Point : 57**

Oppose this rule in that applying a noise limit on frost fans individually does not address the issue of cumulative effects. Additionally the emphasis should be removed from the amount of noise a fan produces and placed on providing an environment suitable for sleep in the bedroom of a dwelling. It allows for the discovery of solutions to noise issues from fans to be placed in the hands of operators.

*Relief sought:* Amend the rule as follows:

"Noise from a frost fan shall not exceed 30 dBA Leq when measured in the bedroom of any dwellinghouse, visitor accommodation or other habitable building within 1000 metres of a frost fan."

**McKean Estates Marlborough Limited ( Steve Meckiff) - Submitter #: 32 Submission Point : 143**

Current noise limitations have a 5 dBA buffer. Every frost event is different with drift of noise and wind carry seemingly not being considered. An accumulation of noise is also very hard to measure/quantify and therefore enforce.

*Relief sought:* Maintain the 5 dBA buffer.

**Meadowbank Holdings Limited ( William Grigg) - Submitter #: 27 Submission Point : 126**

Oppose the plan change but supports a change to the standards as outlined in 30.2.9.1.1 i) and ii) to allow for technological advances in frost fans.

*Relief sought:* 1. The current 60 dB standard should remain until forensic testing is completed.

2. Supports a change to the standards as outlined in 30.2.9.1.1 i) and ii)

**Michael Hyson - Submitter #: 28 Submission Point : 132**

Without using cumulative noise, no noise rules will make any difference to those they are intended to protect.

Although 55 dBA seems to be the accepted outside maximum, the submitter states this is inadequate level because frost fans give off an extra 10 decibels in wind conditions. A limit of 45 dBA Leq must be the permitted cumulative maximum at the notional boundary of the nearest neighbour's dwelling. This should give a cumulative maximum of 55 dBA Leq at a notional boundary given normal breezes but this number should not be in the proposed rules.

Requiring the 30 dBA Leq WHO Critical Health Limit to be measured in the bedroom removes the possibility of opinions and slanted 'expert' submissions (assuming high attenuation rates) resulting in rules that fail to protect the need for sleep.

To give protection for existing older dwellings with the arrival of new frost fans changes are needed to the rule.

**Relief sought:** 1. This should be amended to read:

"Cumulative noise from a frost fan shall not exceed the lower of: 30 dBA Leq in the bedroom of any existing dwelling, visitor accommodation or other habitable building (other than on the property on which the frost fan is situated) or cumulative noise exceed 45 dB LAeq when measured:

- i) at a distance of 300 metres; or
- ii) at the notional boundary of any existing dwelling, visitor accommodation or other habitable building (other than on the property on which the frost fan is situated)."

2. There must be no cut-off distance beyond which complaints cannot be considered and action taken by the Council if the 30 dBA Leq in a bedroom is being exceeded.

Support the proposed new rule but with amendments.

The acoustical descriptor or metric used is the A-frequency weighted time average sound level however the incorrect expression and abbreviation has been used given the proposed method of assessment and measurement is the 2008 editions of NZS 6801 and NZS 6802. The correct expression using these standards is "LAeq (t)" where (t) is the measurement sample time.

The Public Health Service supports the proposed assessment method based on NZS 6802:2008.

The words, "when measured" create legal uncertainty of the kind subject to adverse comment by the Environment Court due to the necessity for measured levels to be adjusted for various factors specified in the cited assessment standard. Using this phrase "when measured," allows legal argument that no adjustment to measured levels was intended.

The words "at a distance of " and "at the notional boundary" are stated as the assessment location. The word "at" is inadequate and a known problem that has been subject of adverse comment by the Environment Court. The acceptable wording or phrase now used is, "at any point within..." in relation to a notional boundary or parcel of land or zone boundary desired to be protected by a noise limit. This phrase overcomes practical difficulties caused by obstructions of various kinds and the need for a certain degree of survey precision about the exact location of a survey boundary.

For the special case of the 300 metres distance, the word "at" has some of the same problems as the use of "at the notional boundary". The distance should be specified as 300 metres plus or minus 3.0 metres which allows for normal optical and other methods of determining distance by range finding instrumentation without highly specialised range finding instrumentation. The possible error in decibel measurement for such a distance would amount to about plus or minus 0.05 dB, an infinitesimal quantity of sound energy. Decibels are only calculated in tenths when necessary and are reported as integer numbers. One hundredth parts of a decibel are inconsequential. However if a rule states "at 300 metres" then there is a high burden of proof that the distance was actually 300 metres.

The distance 300 metres ( $\pm 3m$  as recommended) can be confounding factor in the presence of other noise sources such as other frost fans, helicopters or other aircraft or road traffic. The matter of cumulative effects is a known problem and a confounder of practical measurements. This is a manageable problem for documentation associated with making an application for resource consent where predictions can be made. However the rule itself is intended to be enforceable if necessary at law and its usage in that context needs to be accommodated by the methods of assessment provided. In making this rule provision Council needs to appreciate that assessment under NZS 6802 allows and provides for methods to avoid erroneous results due to intrusion from sound sources other than the sound source of interest.

Such external indirect and esoteric references and qualifiers of application of a rule can cause confusion and it is suggested that it may be better to address this matter overtly in the rule by including a proviso which enables these measurement methods to be used to avoid erroneous results from other noise sources which are part of the residual noise in the rural landscape.

**Relief sought:** 1. Amend "55 dBA Leq" to "55 dB LAeq (t)."

2. Delete the words, "as measured".

3. In sub-clause (i) amend the distance of 300 metres by adding after the numerals "300" the term " $\pm 3$  metres" and in sub-clause (ii) delete the words, "at the notional boundary" and substitute, "At any point within the notional boundary".

4. Add the following new paragraph after the words "whichever is the least distance":

"Provided that, for the purpose of minimising the effect of extraneous noise sources on measurements, the sound level of any frost fan at 300m distance from the assessment point may be calculated from measurements made at a closer location to the frost fan, with the resultant sound level reduced by the level reduction due to divergence alone. Such measurements shall not be made within 50 metres of the frost fan under investigation and calculation shall otherwise be in accordance with rule 30.2.9.1.2."

**Netherwood Lodge Trust ( Adele Dawkins) - Submitter #: 5 Submission Point : 18**

Oppose the change because no provision has been made to accommodate existing activities that are noise sensitive and vision sensitive.

*Relief sought:* Frost fans should be at least 500 metres from the land boundary if the adjoining activity which is existing is sensitive to noise and vision.

**Netherwood Lodge Trust ( Lindsay Dawkins) - Submitter #: 6 Submission Point : 23**

Oppose the change because no provision has been made to accommodate existing activities that are noise sensitive and vision sensitive.

*Relief sought:* Frost fans should be at least 500 metres from the land boundary if the adjoining activity which is existing is sensitive to noise and vision.

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 47**

1. NZW does not consider the recommendations of the Maassen Report regarding the special audible characteristics and a comment by a supplier of frost fans that "its four bladed frost fans could meet the 55 dB LAeq requirement at 300 metres to be a sound basis upon which to reduce the decibel limit nor is it supported by evidence. NZW state the Plan already incorporates a 5 dB limit adjuster for special characteristics and this wasn't omitted through the plan change, therefore the proposed noise level could be enforced as 50 dBA. This limit is not supported by the acoustic evidence previously submitted to the Council by NZW.

Evidence used by the NZW in Hurunui District Council's Proposed Plan Change 18 found the various models of frost fans have variable levels of sound emission and sound qualities, meaning that there "i no consistent picture as to whether these sound characteristics can be classified as containing special audible characteristics' as described by New Zealand Standard NZS 6802". The evidence also referred to World Health Organisation (WHO) guidelines for community noise that recommend an internal 30 dBA level could be achieved with an outdoor noise level of 60 dBA Leq.

2. In the existing Plans, 'notional boundary' is defined as the boundary of a 20 metre zone created around a dwelling or nominated building for the purposes of measuring noise intrusion. A range of buildings could well be spread out over a wide area and the 20 metre exclusion zone extended from the most remote unit. As the rule for Noise Sensitive Activities is focussed at ensuring the noise level in any bedroom of the dwelling should not exceed 30 dB LAeq, the notional boundary could therefore potentially be considered as the external wall of the bedroom closest to the frost fan in question.

*Relief sought:* 1. The noise limit should remain at 60 dB with the 5dB penalty only being applied in appropriate cases in accordance with NZS6802:2008.

2. The term "notional boundary" should be unambiguously defined in order to limit the area of productive land affected.

**Peter Constantine - Submitter #: 24 Submission Point : 112**

The technical expression of the noise limit is incorrect. There is reference to "any existing dwelling" and that is appropriate. However, without the inclusion of a specific date at which the "existing" environment is settled, for the purpose of these rules, there is a significant lack of certainty. The proposed rules should record that "existing" is taken to be the date on which the proposed plan changes were publicly notified.

*Relief sought:* 1. At each place where it occur, delete "dB Laeq" and replace with "dBA Leq".

2. Delete the word "existing" from the rule and add "existing at 24 September 2009" after the word "situated".

**Villa Maria Estate Limited ( Ollie Powrie) - Submitter #: 18 Submission Point : 97**

Oppose the plan change.

*Relief sought:* The noise limit should remain at 60 dB and the 5 dB penalty.

**Waihopai Holdings Limited ( Amy Elizabeth Murphy) - Submitter #: 22 Submission Point : 73**

Oppose the lowering in the noise limit from 60 to 55 dB. The existing noise limit is already strict enough. Lowering the noise limit is unjustified and there is no scientific basis for the new proposed limit.

The measurement of the noise standards at the notional boundary is also opposed. The submitter details circumstances on their own vineyard where the neighbouring house is built close to the boundary and within 100 metres of an existing fan. The submitter concludes that their existing fans would be unlikely to comply with the noise limits at the notional boundary and highlights that this would make the vineyard unviable and that the section 32 fails to quantify these economic costs.

*Relief sought:* 1. That the maximum dB limit remain at 60.

2. That noise limits are not relevant at a notional boundary and only at 300 metres as per the existing rules.

**W30.2.9.1.2 - Sound Level Measurement**

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 90**

The incorrect title is cited for NZS 6802:2008.

*Relief sought:* Amend the title to "Acoustics - Measurement of Environmental Sound".

**Netherwood Lodge Trust ( Adele Dawkins) - Submitter #: 5 Submission Point : 16**

*Relief sought:* Fan noise should be measured together on any one property to obtain the true cumulative noise level. This could be done in daylight hours with vineyard owner cooperation.

**Netherwood Lodge Trust ( Lindsay Dawkins) - Submitter #: 6 Submission Point : 24**

*Relief sought:* Fan noise should be measured on the cumulative level coming from one vineyard. This could be done in daylight hours with vineyard owner cooperation.

**Richard Karn - Submitter #: 15 Submission Point : 65**

Although NZS 6802:2008 allows a measurement time interval to be less than 15 minutes, the rule should state that no noise measurement should be made for less than 2 complete cycles of the frost fan (10-15 minutes depending on fan model). This would allow a fairer average noise level to be established that is less influenced by the periodic highs and lows in the noise level during the regular fan cycle.

*Relief sought:* Amend the rule to include the following:

"Sound levels shall be measured for at least 2 complete cycles of the frost fan."

**Waihopai Holdings Limited ( Amy Elizabeth Murphy) - Submitter #: 22 Submission Point : 75**

The rule needs to be clarified as to whether the proposed 55dBA is absolute or whether a 5dB special audible characteristics penalty applies and lowers the limit to 50dBA.

*Relief sought:* That any change to the rules determines definitely whether any penalty ought to be imposed in the presence of special audible characteristics.

**W30.2.9.1.3 - Operation**

**Fairhall Downs Estate Wines ( Stuart T. Smith) - Submitter #: 17 Submission Point : 74**

1. The operation of frost fans is not confined to grapes. Each crop has danger periods and therefore the use of fans for each crop type should be defined in the Plan.
2. The wording of the rule can be argued to mean that frost fans can be operated when the temperature in the vineyard is 2 degrees, no more, no less. Equally there is no indication as to where the temperature is established e.g. ground, canopy or frost fan tower level.

**Relief sought:** 1. Operation of frost fans should be defined by crop type. Recommended operating conditions as they apply to grapes are as follows:

Producing grape vines: The frost danger period shall be defined as being from bud break to the last reasonable harvest date or May 31st, whichever comes first.

Non producing grapes: The frost danger period shall be defined as the period from bud break to May 31st.

2. Amend the rule as follows:

"The frost fan shall only operate when the local air temperature falls below 2 degrees centigrade recorded at a height above ground level relevant to the bud height of the plants being protected."

**Kevin J A Little - Submitter #: 16 Submission Point : 70**

**Relief sought:** Specify the timing of operation to occur only after bud burst.

**Malcolm Maclean - Submitter #: 13 Submission Point : 58**

Oppose the rule as it should be changed so that the temperature requirements for initiating and finishing operations reflect a more certain temperature range for operation and also allow a buffer to ensure that machines do not turn off and on as their temperature probes oscillate around 2 degrees.

**Relief sought:** Amend the rule as follows:

"The frost fan shall only be operated for frost protection and when the air temperature on the vineyard drops below 1°C and must be switched off when the temperature rises above 2°C."

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 91**

Supports the proposed new rule including air temperature threshold requirements but with amendments.

The phrases "operated for frost protection" and "when the air temperature drops to 2°C." are joined by the word "and". This raises uncertainty as to the possible conjunctive or disjunctive meaning of the word.

The submitter is concerned at the adequacy of the provision which in its present form may hinder enforcement. The temperature threshold is a critical parameter triggering the operation of frost fans and its measurement needs some rigour. There is an issue concerning where, when and how and with what degree of accuracy and in conjunction with other "near the ground" climatic parameters related to moisture content measurement that should be made. Regard should be paid to meteorological expert opinion on these matters. The submitter's concern is that, if people in rural areas are to be subjected to frost fan noise for sustainable management reasons, then there must be a high duty to avoid false triggering.

**Relief sought:** 1. Amend rule by deleting the word "and" in the first sentence.

2. Review rule and take independent expert advice on improving its certainty and an appropriate metrological (legal metrology not to be confused with meteorology), rigor and provide more detail on minimum parameters and location of measurement.

**Netherwood Lodge Trust ( Adele Dawkins) - Submitter #: 5 Submission Point : 17**

*Relief sought:* Frost fans should only be switched on at zero degrees temperature.

**Netherwood Lodge Trust ( Lindsay Dawkins) - Submitter #: 6 Submission Point : 25**

*Relief sought:* Frost fans should only be switched on at one degrees temperature.

**Paul Bruckel - Submitter #: 21 Submission Point : 41**

Reducing the switch-on temperature to below 0.75 degrees C would delay the start up time, reduce the noise nuisance, save fuel and reduce the carbon footprint of frost fans. A switch-off time of 0.75 degrees C would provide similar benefits.

Staff should be required to be on-site to enforce these requirements.

*Relief sought:* Change the permitted activity standard to read:

"The frost fan shall only be operated for frost protection from bud burst (mid September) to mid-December, and from 1 March to the last day of harvest, or the 30 April, whichever comes first, commencing when the air temperature at the vine canopy drops below 0.75 degrees C and terminating when this temperature rises above 0.75 degrees C."

**Peter Constantine - Submitter #: 24 Submission Point : 113**

The rule does not provide for the operation of the frost fan for maintenance purposes unless a resource consent for a discretionary activity is obtained. This is inconsistent with the matters over which Council has reserved its discretion and would create unnecessary plan administration difficulties.

*Relief sought:* Add "except for maintenance purposes" after the word "2°C" in proposed rule.

**W30.2.9.1.4 - Location to Residential and Marlborough Ridge Zones**

**Fairhall Downs Estate Wines ( Stuart T. Smith) - Submitter #: 17 Submission Point : 79**

This rule is not effects based. For the Marlborough Ridge Zone when it was established there were right to farm covenants. This rule should not affect those covenants.

Rural subdivisions have had a detrimental impact on the operation of agriculture by limiting activities to those that do not disturb Rural Residential Zones. The setback rule would further impact on agriculture and would likely drive a desire for more rural residential subdivisions in rural areas as this would be the only option left to land owners adjacent to existing Rural Residential Zones.

*Relief sought:* 1. A set back is not required as this is covered in the maximum decibel limit at the notional boundary.

2. The Marlborough Ridge Zone should not be included in the rule.

**Guy Lissaman - Submitter #: 33 Submission Point : 146**

If the frost fan can meet the current noise level of 60 dBA at the boundary of these specified zones at a distance less than that prescribed in the rule, then this rule is proposed. There is no scientific basis for the rule.

*Relief sought:* There be no change to the current setback distances.



**Meadowbank Holdings Limited ( William Grigg) - Submitter #: 27 Submission Point : 127**

This rule is opposed.

**Relief sought:** The rule should allow that if new technology in frost fans becomes available that enables their use within 500 metres of the said areas without disturbance to these areas, then this is permitted given standards are met.

**Nelson Marlborough DHB Public Health Service ( Geoff Cameron) - Submitter #: 23 Submission Point : 92**

Strongly support the 500m separation zone as the minimum that should be incorporated in this proposed rule, but also submits this is inadequate in relation to protection of urban areas. 1.0km is the only measure that can protect the bulk of the population from night-time sleep disturbance and the adverse health effects consequential to sleep disturbance.

**Relief sought:** Amend the rule to provide for a separation distance of 1.0 km from any land zoned Urban Residential, or Township Residential in the District Plan.

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 48**

Oppose this rule as it is not clear why a considerably greater separation distance of 500 metres is proposed for rule 30.2.9.1.4 when in 30.2.9.1.1(i) 300 metres would achieve the recommended decibel limit. The proposed increased separation distances would render many hectares of current and potential viticultural land unviable due to a lack of protection from the threat of frost without obtaining resource consent.

The section 32 report fails to quantify the potential loss that would result from the large tracts of potentially viable land found to be unusable under this rule. The extent of loss that would occur is contrary to the policies and objectives of the Plan which seek to provide for rural productive activities to occur on rural-zoned land, but it also conflicts with one of the key principles of the RMA - providing for the economic well-being of people and communities.

**Relief sought:** The rule is opposed as the Council itself states in the section 32 report that separation distances between dwellings and frost fans should effectively be determined by the point at which the prescribed noise level is achieved.

**Peter Constantine - Submitter #: 24 Submission Point : 117**

The plan change includes an internal inconsistency. It establishes, as a Standard and Term, that any proposed frost fan must be located no closer to the Marlborough Ridge Zone than 500 metres but then proceeds to introduce a new suite of rules that enable, as a controlled activity, the establishment and use of frost fans within this particular zone. In simple planning terms this can only be reconciled by either deleting the provisions proposed to be added to the Marlborough Ridge Zone or the reference to the Marlborough Ridge Zone in proposed rule 30.2.9.1.4. The preferred solution, given the nature of development and its spatial distribution in the general locality, is to delete the reference to the Marlborough Ridge Zone from proposed rule 30.2.9.1.4.

**Relief sought:** Delete the words "or the Marlborough Ridge Zone" from proposed rule 30.2.9.1.4 and insert the word "and" before the word "Rural".

**W30.2.9.2 - Matters over Which the Council Will Exercise Control**

**C J Smith - Submitter #: 2 Submission Point : 6**

Support this rule as it is incumbent on the Council to exercise such controls.

**Relief sought:** Add (f) as follows:

"Supervision of operational fans (this is a requirement of RMA, OSH etc) so that there is a 'person in charge' of operational machinery who can physically attend to fan problems as they might arise (noise complaints, dangerous conditions, damage, fire etc)."

**Fairhall Downs Estate Wines ( Stuart T. Smith) - Submitter #: 17 Submission Point : 77**

1. Controls on the operation of a frost fan should be dispensed with as noise compliance should be established prior to control.

2. Frost events can extend for several consecutive days, including weekends. It would be ridiculous to restrict emergency maintenance to daylight hours during week days.

*Relief sought:* 1. Controls on the operation of a frost fan should be dispensed with as noise compliance should be established prior to control.

2. Operation of frost fans for maintenance purposes should not be restricted to daylight hours during week days.

**Kevin Eaton and Sara Stringer ( ) - Submitter #: 37 Submission Point : 13**

*Relief sought:* All frost fans should be fitted with data loggers.

**Lions Back Vineyard ( Andrew Hammond) - Submitter #: 30 Submission Point : 138**

The submitter opposes the rule as he considers the Council is not capable of a) to e). The submitter already has resource consent for frost fans and does not want to spend money on retrofitting requirements for fans that he already has permission to use.

*Relief sought:* No change should be made to the existing rules for frost fans.

**Meadowbank Holdings Limited ( William Grigg) - Submitter #: 27 Submission Point : 128**

The rule is opposed as this gives the Council unfettered control of imposing conditions on producers as to how frost fans are used, This gives no certainty to producer with respect to effective and efficient use of fans.

*Relief sought:* Detailed specifications of standards to be outlined for use of frost fans should be included after being devised in conjunction with those in the winery/viticultural industry and participants with major weighting given to the opinions of the industry rather than the minority.

**Michael Hyson - Submitter #: 28 Submission Point : 133**

The new rule must reference a need to meet the changing requirements for any compliance monitoring by Council. Compliance monitoring and enforcement must be pragmatic with minimal cost to the Council and fan operators. It must be able to be publicly monitored to avoid needless complaints and this could be done through the internet.

*Relief sought:* 1. Amend clause (e) as follows:

"The operator will be required to meet changing Council monitoring requirements."

2. A proposed suggestion for monitoring is through an existing website such as the Harvest NZ Meteorological website.

The term "Speed of frost fan" is inadequate because the definition, (as recommended to be amended), can include the mast and power source creating uncertainty whether engine speed or blade speed is intended to be controlled. All elements from engine through the drive train, to and including the blades and exhaust, need to be subject to control because of the number of possible components affecting noise emissions and aerodynamic efficiency. Some vision is required to contemplate coverage of future possible innovations.

The submitter's experience is that monitoring requirements are generally complemented by reporting requirements and are required by the assessment and measurement standards cited.

- Relief sought:** 1. Amend by deleting the words "Speed of Frost fan" and substitute the words, "Orientation, rotational constraints and speed of any frost fan power source or frost fan blade set and engine muffling." in (b).
2. Amend by adding the words "and reporting" after the word "monitoring" in (e).

**New Zealand Winegrowers ( Kristy Newland/Philip Gregan) - Submitter #: 10 Submission Point : 50**

NZW is unsure why it is necessary for the Council to impose conditions in relation to the speed of a frost fan or its operational requirements. The operational requirements of frost fans are stipulated within the proposed standards of the Plan. Failure to meet these standards would require an application for Limited Discretionary Activity consent to be made whereby the Council can use its discretion to impose conditions of consent over and above the standards specified for a Controlled Activity.

- Relief sought:** 1. Conditions of consent for speed and operational requirements should be removed.
2. If the Council intends to impose further controls/conditions on growers in relation to operational requirements and monitoring then NZW request that these be based on technical evidence that has been robustly produced and peer reviewed, and included within the Plan to allow the necessary section 32 assessment and consultation.

**Paul Bruckel - Submitter #: 21 Submission Point : 43**

**Relief sought:** Insert a note after (b) as follows:

"Note: It is important to ascertain make, model gearbox ratios and engine speed in order to correctly calculate fan blade speed for correlation with acoustic report(s) when non-standard combinations are installed."

**Peter Constantine - Submitter #: 24 Submission Point : 116**

Matters (a), (c) and (d) should be written in the singular so that it is clear that the focus of attention throughout the rules is individual frost fans. Council is not in a position, and neither is it appropriate, to be considering cumulative effects because of the known significant variability in effects through the district.

(b) also refers to "speed of frost fan". This is considered imprecise and may lead to difficulties in application. The rule would be improved if it referred specifically to the speed at which the frost fan is operated.

**Relief sought:** Delete the text at (a), (b), (c) and (d) in 2.9.2 and replace with the following:

- (a) Operational requirements of any frost fan.
- (b) Speed at which any frost fan is operated.
- (c) Operation of any frost fan for maintenance purposes.
- (d) Recording information about the use of any frost fan.

**Villa Maria Estate Limited ( Ollie Powrie) - Submitter #: 18 Submission Point : 98**

Oppose some of the matters the Council has reserved its rights to impose conditions over.

**Relief sought:** It is not necessary to impose conditions in terms of the operational requirements of frost fans if it is 'to enable it to gather information about how frost fans are used'.

**Waihopai Holdings Limited ( Amy Elizabeth Murphy) - Submitter #: 22 Submission Point : 76**

Oppose the list of matters, especially speed. The speed at which a frost fan is permitted to run is critical to ensure adequate frost protection. The submitter is concerned that the imposition of conditions of fan speed may render the frost fan useless.

*Relief sought:* That further detail is provided in any change to the rules to elaborate when and the extent to which control may be exercised/conditions imposed, with respect to the matters listed.

**W31.1.5.1 - Noise Sensitive Activities**

**Horticulture New Zealand ( Chris Keenan) - Submitter #: 20 Submission Point : 33**

Support

*Relief sought:* Retain rule.

## Alphabetical index of Submitters (by surname) for Plan Variation #

PartNo	Submitter	Address
1	Ashton - Des	73 Morven Lane RD 2 Blenheim 7272
4	Benmorven Estate Family Trust ( Lex Hayward)	79 Benmorven Road RD 2 Blenheim 7272
36	Boyce - Janet and Wayne	73 Awatere Valley Road RD 4 Blenheim 7274
21	Bruckel - Paul	875 Waihopai Valley Road RD 6 Blenheim 7276
7	Burtergill Farm (2003) Limited ( Geoff van Asch)	TVA Lock Limited PO Box 1003 Blenheim 7240
12	Clintondale Trust - Whyte Trustee Company Limited ( David A Whyte)	183 Redwood Street Witherlea Blenheim 7201
24	Constantine - Peter	Principal Planner Marlborough District Council PO Box 443 Blenheim 7240
19	Constellation New Zealand Limited ( Ollie Davidson)	PO Box 260 Blenheim 7240
8	Dashwood Corner Vineyard Limited ( Geoff van Asch)	TVA Lock PO Box 1003 Blenheim 7240
17	Fairhall Downs Estate Wines ( Stuart T. Smith)	70 Wrekin Road RD 2 Blenheim 7272
35	Gibbs - Blair	37 Lake Timara Road Blenheim 7243
20	Horticulture New Zealand ( Chris Keenan)	PO Box 10232 Wellington 6143
28	Hyson - Michael	195 Shandon Road RD 6 Waihopai Blenheim 7276
34	Jane Buckman and John Kershaw ( )	Kakariki Vineyard PO Box 48200 Renwick 7243
31	Jones - Gary B	19 Opawa Street Blenheim 7201
15	Karn - Richard	2 Nott Street Westshore Napier 4110
3	Kerr - David C	1144 Tuamarina Track RD 3 Blenheim 7273
37	Kevin Eaton and Sara Stringer ( )	1050 State Highway 63 RD 1 Blenheim
30	Lions Back Vineyard ( Andrew Hammond)	PO Box 144 Seddon 7247
33	Lissaman - Guy	Trelawne Farm Limited 25 Old Ford Road RD 1 Seddon 7285
16	Little - Kevin J A	3828 SH 63 RD 1 Wairau Valley Blenheim

## Index of Submitters

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		7271
9	Little Oasis Vineyard Limited ( Geoff van Asch)	TVA Lock PO Box 1003 Blenheim 7240
13	Maclean - Malcolm	59 Morven Lane RD 2 Fairhall Blenheim 7272
32	McKean Estates Marlborough Limited ( Steve Meckiff)	4061 SH 63 RD 1 Wairau Valley Blenheim 7271
27	Meadowbank Holdings Limited ( William Grigg)	PO Box 90 Blenheim 7240
23	Nelson Marlborough DHB Public Health Service ( Geoff Cameron)	Public Health Service PO Box 647 Nelson 7040
5	Netherwood Lodge Trust ( Adele Dawkins)	Netherwood Lodge SH 63 RD 1 Blenheim 7271
6	Netherwood Lodge Trust ( Lindsay Dawkins)	Netherwood Lodge SH 63 RD 1 Blenheim 7271
10	New Zealand Winegrowers ( Kristy Newland/Philip Gregan)	PO Box 90276 Victoria Street West Auckland 1142
29	Parsons - Glenys	"Whitelocks" 2020 SH 63 RD 1 Blenheim 7271
11	Rees - Kathryn Deane	48 Morven Lane RD 2 Blenheim 7272
26	Ryan - Richard	3585 SH 63 RD 1 Wairau Valley Blenheim 7271
2	Smith - C J	2666 SH 63 RD 1 Wairau Valley Blenheim 7271
14	Terra Vitae Vineyards Limited ( Alan O'Sullivan)	10 Birman Close Half Moon Bay Manukau 2012
18	Villa Maria Estate Limited ( Ollie Powrie)	PO Box 43046 Mangere Auckland 2153
22	Waihopai Holdings Limited ( Amy Elizabeth Murphy)	10 Malthouse Road RD 4 Riverlands Blenheim 7274
25	Wither Hills Vineyards Marlborough Limited ( Stephanie Bond)	Russell McVeagh PO Box 8 Auckland 1140

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Amendments	

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