

**IN THE ENVIRONMENT COURT
AT AUCKLAND**

**I TE KŌTI TAIAO O AOTEAROA
KI TĀMAKI MAKĀURAU**

Decision [2021] NZEnvC 162

IN THE MATTER OF

an appeal under Clause 14 of Schedule 1
of the Resource Management Act 1991
(**the Act**)

AND

Topic 8 (Agrichemicals) of the
Proposed Northland Regional Plan

BETWEEN

PUBLIC AND POPULATION
HEALTH UNIT OF THE
NORTHLAND DISTRICT HEALTH
BOARD

(ENV-2019-AKL-126)

HORTICULTURE NEW
ZEALAND

(ENV-2019-AKL-116)

Appellants

AND

NORTHLAND REGIONAL
COUNCIL

Respondent

Court: Judge J A Smith
Commissioner S C Myers

Hearing: On the Papers

Last case event: Memorandum of Federated Farmers of New Zealand of 10
September 2021

Submissions: M J Doesburg and E S Lake for Northland Regional Council (**the Council**)
H A Atkins for Horticulture New Zealand (**Horticulture NZ**)
W D McKean for the Public and Population Health Unit of
Northland District Health Board (**NDHB**)
S T Shaw for LMD Wheelers (s 274 Party) (**the Wheeler's**)
H F Adams, A D Ross and C Smith in person (s 274 Parties)



Public and Population Health Unit of Northland District Health Board v Northland Regional Council

P R Gardner for Federated Farmers of New Zealand
(**Federated Farmers**) (s 274 Party)

Date of Decision: 15 October 2021

Date of Issue: 15 October 2021

FINAL DECISION OF THE ENVIRONMENT COURT

- A: The Court confirms the provisions agreed by parties in the joint memorandum of counsel of 8 September 2021. A track changed version of the provisions is annexed hereto as **A**, with the agreed changes shown in underline and strikethrough.
- B: In relation to the unresolved provisions:
- (a) For rule C.6.5.1.2(c)(iii), we endorse the Council's version;
 - (b) For C.6.5.1.2(c)(v) we endorse the Council's wording that agrichemicals application must not occur in winds at or above 5 m/s plus gusts where wind direction is towards a spray-sensitive area;
 - (c) For aerial application in wind speeds between 3 m/s – 5 m/s and towards a spray-sensitive area, we adopt the proposed additional row and wording of the Council. We have also included an amendment to this wording, so this applies to wind speeds between 3m/s – 5 m/s;
 - (d) For C.6.5.1.(2)(c)(vi) we will retain the column three heading as 'Buffer distance requirement';
 - (e) Regarding column 4, we endorse the Wheeler's suggested wording;
 - (f) Regarding the requirement for agrichemical application to not occur in certain circumstances, we conclude that this should apply to any agrichemical application and we adopt the wording of the Council as a standalone requirement in Rule C.6.5.1;

- (g) The definition of “effective shelter” is retained, with references to artificial shelter included. We also note that the shelter must be effective at the time of the application, meeting the definition’s requirements for matters such as height and porosity;
 - (h) NDHB’s definition of “away from” is confirmed, therefore simply meaning “not towards”. While the definition cannot be overly specific, we confirm that the obligation is to remain on the applicator; and
 - (i) We agree that for measurement of windspeed, an anemometer should be used, and recordings kept by applicators. The exception is when applications are small, as in this instance other means can be used. We conclude the area should be 100m².
- C: The Court’s decision on the unresolved provisions are also contained in annexure **A**, shown with underline and strikethrough and highlighted in turquoise.
- D: Topic 8 is accordingly resolved in its entirety. In terms of the wording in annexure **A**, we give parties a brief opportunity to comment, which must be filed and served on all parties within 10 working days.
- E: Any application for costs is not encouraged, but if one is to be made it is to be filed within 20 working days with a reply within 10 working days and a final reply (if any) 5 days thereafter.

REASONS

Introduction

[1] This matter relates to Topic 8 (Agrichemicals) of the Proposed Northland Regional Plan (**the Plan**).

[2] A 3-day hearing was convened on 27 April 2021, with an interim decision issued

on 9 July 2021. In the decision, the Court directed the Council to file a memorandum with the Court identifying the provisions agreed by parties, and those that remain in dispute.¹

[3] On 8 September 2021, the Council filed their memorandum in accordance with the above directions. A further memorandum by Federated Farmers, regarding their position on Topic 8, was filed on 10 September 2021.

Agreed Changes

[4] The memorandum outlines a series of provisions where agreement was reached between parties. Accordingly, parties seek the Court's endorsement on the following proposed changes.

Rule C.6.5.1 Application of agrichemicals – permitted activity

[5] Parties advise in their memorandum that they have reached agreement on changes to Rule C.6.5.1 Application of agrichemicals – permitted activity.

[6] The amendments include:

- (a) An amendment to clause (2)(b) to enable the Spray Plan to be made available to occupiers of spray-sensitive areas on request;
- (b) Amendments to change the reference to “spray assessment” to “risk assessment”, as proposed by the Court. The parties’ proposed wording is consistent with the term used in the New Zealand Standard Management of Agrichemicals (NZS8409), and the parties are concerned that using a different term could be confusing for plan users;
- (c) An amendment to clause (2)(c)(i) to clarify that every spray activity must be undertaken in accordance with a risk assessment, that is then recorded in a spray diary “or equivalent”. Spray diaries are not appropriate for all farming activities and are not widely used by all farmers. The parties

¹ *Population and Public Health Unit of the Northland District Health Board & Anor v Northland Regional Council* [2021] NZEnvC 096.

consider this is appropriate as it provides flexibility for farmers but still ensures that the key information is recorded;

(d) Amendments to replace the reference to “mitigating” risk to “addressing” risk. The parties’ proposed wording avoids connotations associated with the term “mitigate”. The intent is that all practicable steps will be taken to ensure that no effects occur beyond the application area;

(e) An amendment to (2)(c)(ii) to include a requirement that:

Where the risk of off target spray movement cannot be addressed, agrichemical application must not be undertaken.

(f) Deletion of the reference to “spray diary” in clause (2)(c)(iv). The parties agree that the spray diary is a record of the risk assessment, so it is not appropriate to include it in this clause. Rule C.6.5.1 already requires that agrichemical application occur in accordance with the risk assessment and the Spray Plan;

(g) Deletion of the reference to “ponding conditions” proposed by the Court’s interim decision. The parties consider that the term is unclear as there is no guidance or definition of “ponding conditions” provided in NZS8409, and there is no definition in the Plan. “Ponding conditions” is also not a commonly understood indicator of off-target spray drift. Accordingly, the parties do not consider it is necessary to manage ponding conditions in the provisions and that reference to “inversion” adequately captures the issue;

(h) Amendments to replace the reference to “spray sensitive areas” with “spray sensitive area”. This amendment is consistent with the definition of “spray-sensitive area”, including as part of the provisions;

(i) Minor wording amendments to the consideration of buffer distances in column four of the table of requirements. The parties agree that the inclusion of “to be observed” clarifies that the assessment should observe the buffer distances that are required in column three and any additional buffers deemed appropriate through a risk assessment; and

- (j) An amendment to the wording of the clause relating to agrichemical application undertaken in a fully enclosed environment. The parties support the inclusion of a requirement that the environment “remains enclosed during and immediately after spraying”. The parties consider that this is appropriate because many greenhouses in Northland are next to residential dwellings and there is a risk of off-target application if such greenhouses are opened immediately after spraying.

Other Agreed Matters

[7] Parties also agree on the following:

- (a) Inclusion of “roofing for the collection of drinking water” in the definition of “spray-sensitive area”. This matter was agreed between the technical experts and supported by all parties;
- (b) Minor grammatical amendments to the definition of “effective shelter” for plan readability purposes;
- (c) Minor amendments to the definition of “buffer”. The parties consider that the definition should refer to “buffer” rather than “buffer zone distance”. “Buffer” is more appropriate as it is a term used in the provisions. The parties also consider it is appropriate to replace “downward” with “downwind”. The Court refers to “downward” in the definition of buffer, but the commonly used term is “downwind”;
- (d) Inclusion of a definition of “risk assessment”. The parties consider that including a definition of risk assessment would be helpful for the application of the rules. The proposed definition was agreed by the parties with input from technical specialists; and
- (e) Deletion of the proposed Spray Diary/Risk Assessment template (Annexure D of the interim decision). While the parties consider a template Spray Diary/Risk Assessment would assist agrichemical users, the parties are concerned that setting the template through the Plan will result in an inflexible approach. The parties therefore consider it would

be more appropriate for the Plan to not include the template, so that it can be updated over time if required. The proposed provisions also provide sufficient guidance (including through the risk assessment definition and the requirements in the table in clause (2)(c)(vi)) as to the matters that must be considered as part of any risk assessment and record of spray activity.

Evaluation

[8] Having considered the above agreed amendments proposed by the parties, we agree that they reflect the Court’s earlier decision or are otherwise appropriate alternatives. The wording is workable while reflecting the issue of importance in managing spray application. Accordingly, the above provisions are approved and are to be incorporated into the Plan.

Provisions in Disagreement

[9] Parties also identified provisions where an agreement was not reached. We have outlined the positions of each party as follows and address each provision in turn.

Clause 2(c)(iii) – reassessment of risk during spraying

[10] The Council prefers drafting that provides that the applicator must “assess whether the conditions have changed and ensure that the application methods and drift mitigations are still appropriate”, as they consider the reference to “conditions” is clearer than “situation”. This is supported by NDHB, the Wheeler’s, Mr Ross, Ms Adams and Ms Smith.

[11] While they agree to a reference to “conditions” rather than “situation”, Horticulture NZ also propose a further working amendment to identify the ‘trigger’ for re-evaluation of the risk assessment.

[12] We conclude that the Plan should state very clearly that it remains the applicator’s obligation to ensure that the product is applied safely, and in accordance with these standards. The wording as provided by the Council places the onus of risk

reassessment onto the applicator. For this reason, we conclude that the wording as provided by the Council is the most appropriate to ensure this continuing obligation is enforced.

Ground-based spraying

[13] Parties note there appears to be a gap for wind speeds between 5-6 m/s towards a spray sensitive area. The Council proposed the addition of clause (2)(c)(v), which provides that resource consent is required for wind speeds between 5-6 m/s towards a spray sensitive area. This is supported by NDHB. The clause would provide:

Agrichemical application must not occur if the wind speeds are greater than 5m/s plus gusts and wind direction is towards a spray-sensitive area.

[14] Horticulture NZ propose amending the wind speed description on the table from 1-5 m/s for wind towards a spray-sensitive area to 1-6 m/s, as this would provide consistency with the rules.

[15] The Wheeler's propose an alternative to the Council's clause (2)(c)(v), separating ground-based spraying and aerial application. This would require resource consent for wind speeds towards a spray-sensitive area between 5-6 m/s for ground-based spraying, and for wind speeds towards a spray-sensitive area between 3-6 m/s for aerial application. Mr Ross, Ms Adams and Ms Smith support this application. The proposed clause would read:

Where wind direction is towards a spray-sensitive area agrichemical application must not occur if wind speeds are greater than 5 m/s plus gusts for ground-based, and 3 m/s plus gusts for aerial spraying.

[16] The advice received from experts at the hearing was that at wind speeds up to 5 m/s plus gusts, spraying may be acceptable conditional on the use of appropriate management tools. Moreover, the experts advised that agrichemical application in wind speeds over 6 m/s is high risk, as the spray cannot be applied in a safe manner. We therefore conclude that the addition of clause (2)(c)(v), and the wording provided by the Council stating that agrichemical application must not occur where wind speed is at or over 5 m/s plus gusts, should be adopted and is consistent with this advice.

Aerial Spraying

[17] Parties also noted a similar gap regarding Aerial Spraying. The Council proposes the following, added as additional rows in the table:

- (a) For aerial application with wind speeds between 5 m/s - 6 m/s and away from a spray-sensitive area, certain additional requirements must be met; and
- (b) For aerial application for wind speeds between 3 m/s - 6 m/s and towards a spray-sensitive area, buffer distances apply, and certain additional requirements must be met.

[18] Horticulture NZ proposes an amendment to column one of the table of requirements, to address the gap that exists for wind speeds of 6 m/s away from a spray-sensitive area. This also amends the 1-5m/s wind speed description from 1-6 m/s for aerial spraying where the wind is away from a spray-sensitive area. Horticulture NZ supports the Council's approach for the remaining gap for aerial application (wind speeds greater than 3 m/s and up to 6 m/s when wind is towards a spray sensitive area).

[19] Mr and Mrs Wheeler propose an amendment to clause (d), providing that agrichemical application must not occur if wind speeds are greater than 6 m/s plus gusts for ground-based spraying, and 5 m/s for aerial application. This separates ground-based spraying and aerial application. NDHB, Mr Ross, Ms Adams and Ms Smith support the Wheeler's application.

[20] The risk is higher for aerial spraying than ground-based spraying, as there is high potential for spray drift. The risk also increases significantly in wind speeds above 6m/s. We consider that a more cautious approach is required for aerial spraying and that resource consent should be required for wind speeds over 5 m/s plus gusts.

[21] To address the gap for aerial application in the table regarding wind speeds between 3 m/s – 5 m/s (plus gusts) and towards a sensitive area, we adopt the proposed additional row and wording of the Council, with an amendment to this

wording so that it applies to wind speeds between 3m/s – 5m/s and not wind speeds between 3 m/s – 6 m/s. This will mean that for aerial application with wind speeds between 3 m/s – 5 m/s and towards a spray-sensitive area, buffer distances apply, and certain additional requirements must be met. This will accordingly ensure consistency with (2)(c)(v) discussed above. We also note that the situation of aerial application with wind speeds between 1 m/s – 5 m/s (plus gusts) and away from a spray sensitive area is addressed in the Plan.

Heading of column three

[22] The Council supports the heading “Mandatory minimum buffer distances”, as column three incorporates the minimum buffer distances that must be met for agrichemicals application to be undertaken as a permitted activity. NDHB, the Wheelers, Mr Ross, Ms Adams and Ms Smith also agree with the Council’s position.

[23] Horticulture NZ suggest “Buffer distance requirements”, because it maintains the clear direction to the Plan user that to meet this condition, application of the buffer is a requirement. It also links to the subsequent clause relating to pre-approval, which Horticulture NZ consider improves cohesion of the drafting.

[24] The issue in front of the Court is what heading for column three is the most appropriate. Accordingly, we have concluded to retain the column three heading as ‘Buffer distance requirement’. This is consistent with the use of the term in the Plan, because the buffer requirements in column three are worded as a minimum distance.

Column four

[25] This relates to the wording of the ‘height of spray release’ requirement in column four of the table.

[26] The Council considers that the height of spray release should be at least 1 metre below the height of the effective shelter relied on, because this was confirmed in the Court’s decision; NDHB agree with this position. While Horticulture NZ agrees to the ‘height of spray release’ consideration, they prefer the wording in the Court’s interim decision, as it more accurately reflects the framing of column four.

[27] Mr and Mrs Wheeler propose the following amendments to the Council's position, which involve grammatical clarity and inclusion of 'release'. Mr Ross, Ms Adams and Ms Smith also support this position:

Height of spray release and the risk of spray drift (for boom or blast spraying release should be no higher than 1m below the top of the shelter to prevent spray drift).

[28] For the purposes of the Plan, the Wheeler's proposed wording provides clarity as to spray release requirements for applicators, building upon the Council's position. Accordingly, this wording appears the most appropriate to include in the Plan. We therefore conclude that the Court approves the wording as suggested by the Wheeler's for the wording of spray release requirements in column four.

Requirement for agrichemical application to not occur in certain circumstances

[29] Parties have not reached an agreement on the location of the requirement that agrichemical application must not occur in certain circumstances, being:

- (a) In wind speeds over 6 m/s plus gusts; and
- (b) In wind speeds between 0-1 m/s and inversion conditions are present.

[30] Most support those requirements applying to any agrichemical application. The Council considers the requirement that agrichemical application must not occur (as a permitted activity) if wind speeds are greater than 6 m/s plus gusts or between 0-1 m/s if there are inversion conditions present, should be a standalone requirement in Rule C.6.5.1. Moreover, the Council, NDHB, Mr and Mrs Wheeler, Mr Ross, Ms Adams and Ms Smith support the requirements applying to any spray application regardless of proximity to spray sensitive areas.

[31] In contrast, Horticulture NZ seeks requirements only apply to agrichemical application within 100m for ground-based spraying, or 200m for aerial spraying of a spray-sensitive area, as they consider the Council's approach to be out of scope. Federated Farmers favours this position, because it considers there is little, if any, risk associated with spraying in agricultural production situations.

[32] We conclude that these requirements should apply to any agrichemical application. Accordingly, we adopt the Council’s wording on this matter. The requirement that agrichemical application must not occur (as a permitted activity) if wind speeds are greater than 6m/s plus gusts or between 0-1 m/s if there are inversion conditions present should therefore be a standalone requirement in Rule C.6.5.1.

Definition of “effective shelter”

[33] While the Council support retaining the requirement that trees not be deciduous, they will abide the Court’s decision on that point. Moreover, they consider that references to artificial shelter should be included in the definition. Conversely, Horticulture NZ proposed to remove the exclusion for deciduous shelter because a tree may meet other definition requirements. However, they support inclusion of references to artificial shelter, proposing an additional sentence to provide clarity on whether it can be considered effective shelter.

[34] NDHB seek to retain the requirement, because insufficient foliage in autumn and spring may add uncertainty to the definition’s effectiveness. NDHB also consider references to artificial shelter should not be included in the definition of effective shelter, because of the variability of artificial shelter and the lack of expert evidence to prove its efficacy. The Wheeler’s agreed with NDHB, noting that Horticulture NZ’s drafting of artificial shelter “reducing” the risk of spray drift is inconsistent with Rule C.6.5.1(1)(ii). Mr Ross, Ms Adams and Ms Smith support this position, with Mr Ross and Ms Adams providing comments about effective shelter.

[35] The primary area of disagreement is whether deciduous trees can provide effective shelter, and whether artificial shelter can be considered. In this instance, we have concluded to retain the requirement that trees not be deciduous, as per the interim decision.² Such a requirement provides further certainty to the definition when read alongside the other requirements such as porosity and height. We also note that the shelter must be effective at the time of application and satisfy all the requirements under the definition of “effective shelter”.

² *Population and Public Health Unit of the Northland District Health Board & Anor v Northland Regional Council* [2021] NZEnvC 096 at [58].

[36] Moreover, for greater transparency, we also conclude that a reference to artificial shelter should be included in this definition.

Definition of “away from”

[37] The Council (with support from Horticulture NZ) support the following amendments to the definition of “away from”, as they consider them clearer and more practical for plan users:

- (a) Clarify that the wind direction must not be directly towards the spray-sensitive area;
- (b) Clarify that wind direction must not be between 0-45 degrees either side of the wind direction that is directly towards the spray-sensitive area; and
- (c) Amends the requirement that “wind speed must be moderately steady over 1 m/s” to provide that “wind speed is at least 1 m/s”.

[38] NDHB prefers the simple definition of “away from” meaning “not towards”, because of concerns that the wording only works if it includes specific technical requirements. Mr and Mrs Wheeler agree with this position, because the NDHB alternative inclusion of 45 degrees is contingent on a 50m buffer, while the Council excluded the buffer but retained the 45 degrees. Mr Ross, Ms Adams and Ms Smith subsequently support the Wheeler’s position.

[39] We concur with NDHB and conclude that the definition of “away from” should mean “not towards”. We agree that the Council’s wording is only effective if it includes specific mechanisms. Accordingly, we confirm that to ensure greater clarity for applicators, the definition should not be overly specific, but provide that the onus is clearly placed on the applicator. For this reason, we conclude that the definition of “away from” should mean “not towards”.

Location of risk assessment measures

[40] The Council, Horticulture NZ and NDHB consider the risk assessment should be listed as an appendix, whereas the Wheeler’s prefer that risk assessment criteria

remain in the definition. Mr Ross, Ms Adams and Ms Smith support the Wheeler's position.

[41] We concur that the risk assessment should be listed as an appendix, and we adopt the wording proposed by the Council.

Measuring wind speed

[42] The Council's position provides that the measurement of wind speed and wind direction for both risk assessment and during spraying operations must be measured:

- (a) Onsite;
- (b) At the observed maximum projected height of the spray plume or at the release of the spray for downward projected nozzles, at the downwind edges of sprayed areas closest to potential spray-sensitive areas; and
- (c) Using an electronic/digital monitoring device, or with wind socks or other visual indicators where the applicator can see them.

[43] They do not consider it necessary for devices to produce a record, because of the substantial costs agricultural users are likely to incur as a result. Furthermore, other agricultural rules require the applicator to record information in a spray diary or equivalent.

[44] The Council supports wind speed and direction being averaged over a 10-minute minimum period for risk assessment but considers a 5-minute period is more appropriate for spraying. Horticulture NZ disagrees with this, considering it impractical and not reflective of the time scale of electronic monitoring systems. However, Horticulture NZ supports the Council's reference to wind socks. Federated Farmers support Horticulture New Zealand's position.

[45] NDHB consider wind speed should be measured by wind sensors, in order to accurately determine wind speed for fundamental operation of the rule. The Wheeler's do not consider that wind socks and wind indicators can "measure" wind speed or

wind direction. Rather, they seek the addition of a requirement that electronic monitoring produces a digital or printed record, citing Growsafe training's advice on measuring wind speed by a hand-held anemometer. Moreover, they seek the inclusion of a table providing windspeed equivalents between m/s and km/h.

[46] Mr Ross, Ms Adams and Ms Smith support the Wheeler's position, with Mr Ross and Ms Adams providing comments disagreeing with using wind socks to measure wind speed.

[47] The issue of measuring wind speed was not addressed in the Court's interim decision. We concur with the Wheeler's that agrichemical users should retain digital or printed records of wind speed monitoring, particularly given Growsafe's advice surrounding anemometers. Moreover, we do not consider that the costs involved with retaining recordings outweighs the requirement to undertake wind speed measurements as part of sufficient risk assessment during spraying operations.

[48] The exception, however, is in the instances of small applications. In these circumstances, we consider that other means of monitoring may be used. Moreover, we consider that the area within which an anemometer is not required for measuring wind speed should be no more than 100m² in any one area. We otherwise adopt the wording proposed by the Wheeler's for measurement of wind speed. This permits small applications such as weed spraying of small patches.

Outcome

[49] Accordingly, the Court concludes the following:

A: The Court confirms the provisions agreed by parties in the joint memorandum of counsel of 8 September 2021. A track changed version of the provisions is annexed hereto as A, with the agreed changes shown in underline and strikethrough.

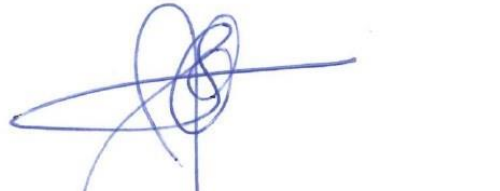
B: In relation to the unresolved provisions:

(a) **For rule C.6.5.1.2(c)(iii), we endorse the Council's version;**

- (b) For C.6.5.1.2(c)(v) we endorse the Council's wording that agrichemicals application must not occur in winds at or above 5 m/s plus gusts where wind direction is towards a spray-sensitive area;
- (c) For aerial application in wind speeds between 3 m/s – 5 m/s and towards a spray-sensitive area, we adopt the proposed additional row and wording of the Council. We have also included an amendment to this wording, so this applies to wind speeds between 3m/s – 5 m/s;
- (d) For C.6.5.1.(2)(c)(vi) we will retain the column three heading as 'Buffer distance requirement';
- (e) Regarding column 4, we endorse the Wheeler's suggested wording;
- (f) Regarding the requirement for agrichemical application to not occur in certain circumstances, we conclude that this should apply to any agrichemical application and we adopt the wording of the Council as a standalone requirement in Rule C.6.5.1;
- (g) The definition of "effective shelter" is retained, with references to artificial shelter included. We also note that the shelter must be effective at the time of the application, meeting the definition's requirements for matters such as height and porosity;
- (h) NDHB's definition of "away from" is confirmed, therefore simply meaning "not towards". While the definition cannot be overly specific, we confirm that the obligation is to remain on the applicator; and
- (i) We agree that for measurement of windspeed, an anemometer should be used, and recordings kept by applicators. The exception is when applications are small, as in this instance other means can be used. We conclude the area should be 100m².

- C: The Court's decision on the unresolved provisions are also contained in annexure A, shown with underline and strikethrough and highlighted in turquoise.
- D: Topic 8 is accordingly resolved in its entirety. In terms of the wording in annexure A, we give parties a brief opportunity to comment, which must be filed and served on all parties within 10 working days.
- E: Any application for costs is not encouraged, but if one is to be made it is to be filed within 20 working days with a reply within 10 working days and a final reply (if any) 5 days thereafter.

For the Court:



Judge J A Smith
Environment Judge



Annexure A – Tracked Changed Version of Provisions

Topic 8 – Agrichemicals

The agreed changes between the parties are shown in underline and strikethrough as changes to the Court's interim decision version.

Amendments agreed by all parties and approved by consent order dated 9 July 2021 are shown highlighted green in underline and strikethrough.

Amendments proposed by the Court in this decision are shown in underline and strike through and are highlighted turquoise.

Rule C.6.5.1 Application of agrichemicals – permitted activity

The discharge of an **agr**ichemical into air or onto or into land is a permitted activity, provided:

- 1) for all methods (including **hand-held spraying**, **ground-based spraying** and **aerial application**):
 - aa) the applicator must:
 - i) take all practicable steps to ensure that agrichemicals are used appropriately and accurately, and are confined to target application areas;
 - ii) take all practicable steps to ensure that no adverse effects occur beyond the application area; and
 - iii) ensure that relevant tolerable exposure limits (TELs) and environmental exposure limits (EELs) are not exceeded.
 - ...
 - [as per consent document]
- 2) for ground-based spraying and aerial application:
 - (a) the activity is undertaken in accordance with the following sections of the New Zealand Standard Management of Agrichemicals (NZS8409:2004) as it relates to the management of the discharge of agrichemicals:
 - i) Use – Part 5.3, and
 - ii) Storage – Appendix L4, and
 - iii) Disposal – Appendix S, and
 - iv) Records – Appendix C9, and
 - (b) a **Spray Plan** must be prepared annually for the area where agrichemical is to be applied, which shall be made available to the Council and the occupiers of spray-sensitive areas on request;
 - (c) where the activity is undertaken within 100 metres of a spray-sensitive area or 300 metres for aerial application:
 - i. every spray activity must be undertaken in accordance with a **Spray risk** assessment, that is recorded in a spray diary or equivalent and made available to the Council and the occupiers of spray-sensitive areas on request;
 - ii. the **Spray risk** assessment must be carried out prior to the application to determine the site characteristics on the day, particularly wind speed and wind direction, the level of risk present, and use of appropriate methods

to ~~mitigate~~ address that risk. Where the risk of off target spray movement cannot be addressed, agrichemical application must not be undertaken;

- iii. the applicator must re-evaluate the Spray risk assessment during the spray application to ensure that assess whether the situation has conditions have not changed and ensure that the application methods and drift mitigations are still appropriate;
- iv. the activity must be undertaken in accordance with the Spray risk assessment, the spray diary and the Spray Plan;
- v. agrichemical application must not occur if wind speeds are greater than 5m/s plus gusts and wind direction is towards a spray-sensitive area; and:
- vi. the following requirements must be met:

Wind speed ³	Wind direction	Mandatory minimum buffer distance Buffer distance requirement	Additional requirements to be assessed
<i>Ground-based – low risk</i>			
1-3 m/s	Wind away from spray-sensitive area(s)	nil	nil
<i>Ground-based – assessed risk</i>			
0-1 m/s	Any wind direction (not inversion or ponding conditions)	There is a buffer distance on all boundaries of the target application area of at least: Boom spraying <ul style="list-style-type: none"> • 2 m with effective shelter, or • 10 m without effective shelter. Airblast spraying <ul style="list-style-type: none"> • 10m with effective shelter, or • 30m without effective shelter. 	<ul style="list-style-type: none"> • The buffer distance to be observed on all boundaries of the target application area and whether effective shelter is present • Height of spray release and risk of spray drift (for boom or blast spraying release should be no higher than 1m below the top of the shelter to prevent spray drift) and the risk of spray drift • Sensitivity of receivers • Toxicity of spray • Use of agrichemical direct application methodology (e.g. shrouds).
1-5 m/s	Wind toward spray-sensitive area(s)	There is a buffer distance on the downwind boundary of the target application area of at least: Boom spraying	<ul style="list-style-type: none"> • The buffer distance to be observed on the downward downwind boundary of the target application area and whether effective shelter is present • Height of spray release and risk of spray drift (for boom or blast spraying release should be no

³ Refer to Appendix H.X for measurement of wind speed requirements.

		<ul style="list-style-type: none"> • 2 m with effective shelter, or • 10 m without effective shelter <p>Airblast spraying</p> <ul style="list-style-type: none"> • 10m with effective shelter, or • 30m without effective shelter. 	<p><u>higher than 1m below the top of the shelter to prevent spray drift) and the risk of spray drift</u></p> <ul style="list-style-type: none"> • Spray quality • Sensitivity of receivers • Toxicity of spray • Use of agrichemical direct application methodology (e.g. shrouds).
3-6 m/s	Wind away from spray-sensitive area(s)	nil	<ul style="list-style-type: none"> • <u>Height of spray release and risk of spray drift (for boom or blast spraying release should be no higher than 1m below the top of the shelter to prevent spray drift) and the risk of spray drift</u> • Spray quality • Sensitivity of receivers • Toxicity of spray
<i>Aerial spraying – assessed risk</i>			
0-1 m/s	Any wind direction (not inversion or ponding conditions)	There is a buffer distance on all boundaries of the target application area of at least: <ul style="list-style-type: none"> • 100m with effective shelter, or • 300m without effective shelter. 	<ul style="list-style-type: none"> • The buffer distance <u>to be observed</u> on all boundaries of the target application area and whether effective shelter is present • Height of spray release <u>and risk of spray drift (release should be no higher than 1m below the top of the shelter to prevent spray drift) and the risk of spray drift</u> • Sensitivity of receivers • Toxicity of spray • Spray quality is as coarse as possible
1-5 m/s	Wind away from spray-sensitive area(s)	nil	<ul style="list-style-type: none"> • Height of spray release and risk of spray drift <u>(release should be no higher than 1m below the top of the shelter to prevent spray drift)</u> • Sensitivity of receivers • Toxicity of spray • Spray quality being as coarse as possible
<u>greater than 5 m/s</u> 6	<u>Wind away from spray-sensitive area</u>	<u>nil</u>	<ul style="list-style-type: none"> • <u>Height of spray release and risk of spray drift</u>

m/s			<ul style="list-style-type: none"> • Spray quality being as coarse as possible • Implement spray drift mitigation controls identified in risk assessment
1-3m/s	Wind toward spray-sensitive area(s)	<p>There is a buffer distance on the downwind boundary of the target application area of at least:</p> <ul style="list-style-type: none"> • 100 m with effective shelter, or • 300 m without effective shelter. 	<ul style="list-style-type: none"> • The buffer distance to be observed on the downward downwind boundary of the target application area and whether effective shelter is present • Height of spray release and risk of spray drift (release should be no higher than 1m below the top of the shelter to prevent spray drift) • Sensitivity of receivers • Toxicity of spray • Spray quality being as coarse as possible
greater than 3m/s-56m/s	Wind toward spray-sensitive area	<p>There is a buffer distance on the downwind boundary of the target application area of at least:</p> <ul style="list-style-type: none"> • 100 m with effective shelter, or • 300 m without effective shelter. 	<ul style="list-style-type: none"> • Spray quality being as coarse as possible • Height of spray release and risk of spray drift (release should be no higher than 1m below the top of the shelter to prevent spray drift) • Implement spray drift mitigation controls identified in risk assessment

(d) agrichemical application must not occur if:

- i. wind speeds⁴ are greater than 6m/s plus gusts; or
- ii. wind speeds⁵ are between 0-1m/s and inversion or ponding conditions are present or likely to be present during application;

(e) the buffer distance requirements in (2)(v) above do not apply to agrichemical application if the occupier of the spray-sensitive area has provided written approval for the type and method of agrichemical application, and:

- i. the written approval is re-signed annually; and
- ii. the occupier is provided with a copy of the annual spray plan; and
- iii. the written approval has not been withdrawn, withdrawal only being effective if three months' notice has been provided;

(f) agrichemical application undertaken in a fully enclosed environment that remains enclosed during and immediately after spraying (for example a greenhouse) is not subject to the requirements in (2) above.

⁴ Refer to Appendix H.X for measurement of wind speed requirements.

⁵ Refer to Appendix H.X for measurement of wind speed requirements.

Agrichemical application that does not meet all of the requirements under (2) above is a discretionary activity under Rule C.6.5.5.

- 3) [training conditions as per consent document]
- 4) [training conditions as per consent document]
- 5) [2,4-D conditions as per consent document]

Rule C.6.5.2 Application of agrichemicals into water – permitted activity

Equivalent changes to C.6.5.2 as above.

Definitions

Spray-sensitive area

1. residential buildings and associated garden areas, and
2. schools, hospital buildings and care facilities and grounds, and
3. amenity areas where people congregate including parks and reserves, and
4. community buildings and grounds, including places of worship and marae, and
5. certified organic farms, and
6. orchards, crops and commercial growing areas, and
7. water bodies used for the supply of drinking water and for stock drinking, and
8. **natural** wetlands and significant areas of indigenous vegetation and habitats of indigenous fauna as defined in the Regional Policy Statement for Northland, and
9. roofing for the collection of drinking water; and
10. apiaries.

Effective shelter

Effective shelter must ~~be~~:

1. be taller (at least >1 metre) than the height of the spray plume¹ when the plume interacts with the shelter; and
2. have foliage that is continuous from top to bottom; and
3. achieves in the order of 50% optical and aerodynamic porosity;² and
4. haves a high surface area (note that fine needles are more effective at collecting fine spray than broad leaves); and
5. ~~is~~ not be deciduous; and
6. haves a minimum height of 3.5 metres; and
7. haves a width to height ratio of 1:3.5.

Note: Artificial shelter ~~can~~ may also be useful in reducing spray drift (for example overhead hail netting for kiwifruit and apples).

¹ NB: This is not necessarily the same as the projected height (at point of discharge) as it will typically rise if it drifts.

2 The thicker the shelter belt, (e.g. multiple lines of plants), optically you can't see thought it but it's still aerodynamically porous.

Buffer

Buffer ~~zone distance~~ means a specified horizontal distance from a ~~downward~~ downwind spray-sensitive area, measured from the ~~downward~~ downwind edge of the application area closest to the spray-sensitive area.

Away from

"Away from" means not towards

"Away from" means:

- a) ~~not towards;~~
- b) ~~it includes 45 degrees either side of direction; and~~
- e) ~~the wind speed must be moderately steady over 1 m/s.~~

For the purposes of Rule C.6.5.1 and C.6.5.2, wind is "away from" a spray-sensitive area when the means prevailing wind direction is:

- (i) ~~not directly towards the spray-sensitive area; and~~
- (ii) ~~it includes is not in a direction that is between 0-45 degrees either side (of the direction that is directly towards a spray sensitive area); and~~
- (iii) ~~wind speed is at least 1m/s.~~

Risk Assessment

An assessment of the proposed agrichemical application to identify risks of off-target spray movement and risks to spray-sensitive areas and measures to address those risks and determine if agrichemical application can be done safely and effectively given the conditions on-site at the time.

After considering the spray plan, the risk assessment must include an assessment of the following matters listed in Appendix H.XX.

Appendix H.XX

Measurement of wind speed Risk assessment requirements

How to measure wind speed

1. Wind speed and wind direction measurement for both risk assessment and *during spraying operations* must be measured:
 - i) onsite;
 - ii) at the observed maximum projected height of the spray plume (maximum 1 m above the target), or at the release height of the spray for downward projected nozzles, at the downwind edges of sprayed areas closest to potential spray-sensitive areas;
 - iii) using an electronic/digital monitoring device which produces an electronic or printed record, for spraying operations on sites greater than 100m² or with wind socks or other visual indicators where the applicator can see them.

2. Wind speed and wind direction for a risk assessment must be averaged over a 10-minute period and during spraying operations wind speed and wind direction must be averaged over at least a 5-minute period.

3. Wind gust should be measured as the strongest consecutive 3 second reading in any 60 second period.

Risk assessment

The risk assessment must include the matters identified in the definition of Risk Assessment and the content of the risk assessment must be:

{insert content of Risk Assessment (Annexure D to decision)}

Risk assessment

A risk assessment for the application of agrichemicals must, after considering the spray plan, include an assessment of the following:

1. Confirmation of the target application area;
2. Appropriateness of product for the weed, pest, or crop;
3. Location of spray-sensitive areas;
4. Weather conditions (wind speed, wind direction, humidity and temperature, atmospheric stability);
5. Appropriateness of particle size and release height, particularly in relation to spray-sensitive areas and buffer zones;
6. Presence and condition of shelter belts;
7. Fit for purpose equipment and personal protective equipment;
8. Confirmation that notification has been carried out and required signage is in place (see C3 and C4);
9. Confirmation that any relevant regulatory requirements can be complied with;
10. Confirmation that all other risk factors, including those identified in the spray plan, are being managed in accordance with the spray plan;
11. Toxicity of the agrichemical to be applied;
12. Application rate;
13. Volatility;
14. Timing and duration of operation; and
15. Type of spray-sensitive area and sensitivity of persons/animals/vegetation potentially exposed.
16. The likelihood of spray drift occurring.
17. The ways of eliminating the risk of spray-drift occurring and selection of the practicable steps to ensure that agrichemicals are confined to target application areas