Guidance note (draft as at 21 Feb 2025)

Background and reasons for recommended NZAET provisions for agrichemical use

Effective rules on agrichemical discharges in regional plans

The application of agrichemicals or spraying of plant protection products such as herbicides, insecticides, and fungicides constitutes a discharge to the environment so attracts attention within regional plans. NZS 8409:2021 Management of Agrichemicals (NZS 8409) describes a *risk management approach* for each of the major activities associated with the management of agrichemicals including transport, storage, use, disposal and emergency management[1].

Legal framework

Agrichemicals are a discharge to environment (air, land and/or water). Regional councils have a responsibility to "control of discharges of contaminants into or onto land, air, or water and discharges of water into water" under s30 of the Resource Management Act 1991 (RMA).

Regulations associated with the Health and Safety at Work Act 2015 (HSWA) cover personal safety. Responsibility for the environment is covered under the Hazardous Substances and New Organisms Act 1996 (HSNO). The ACVM Act covers food safety and animal welfare. Other legislation and regulations such as the Dangerous Goods Rule for transport may also apply to agrichemicals.

However, safe responsible and effective use of agrichemicals in the community requires consideration by regional councils to provide for the discharge to air, land and/or water. Such consideration includes planning, notification, signage, on-site risk assessment, record keeping, disposal and competency for use of all plant protection products, a subset of agrichemicals.

There can be overlap between different regulations. For example, HSWA and HNSO require records to be kept for the use (application) of a subset of agrichemical products in relation to toxicity whereas regional councils and industry quality assurance programmes may require that all agrichemical products that are applied are recorded irrespective of toxicity. NZS 8409 requires the latter.

NZS 8409:2021 Management of Agrichemicals

A wide range of stakeholders refer to NZS 8409 to inform their planning and use of agrichemicals. This standard was first produced in 1990 to align with the Resource Management Act 1990 (RMA). Since then, it has been reviewed and revised to ensure that best practice continues to be the basis of the Standard, with the latest review being in 2021. The review process was undertaken by Standards NZ with NZAET and a wide range of stakeholders, including government and local government representatives.

Conforming to the relevant parts of NZS 8409 as set out in the template rules, satisfies the requirements of the RMA and enables the template rules to be adopted into the regional plans prepared by local authorities with respect to agrichemical use. A key concern for regional councils is managing the potential for spray drift beyond the boundary of the application area and minimising

[1] NZS 8409:2021 also applies to other products registered under the Agricultural Compounds and Veterinary Medicines Act (ACVM) including veterinary medicines and animal health products along with detergents and sanitisers used in an agricultural context.

risk to people and the environment. This is specifically managed in NZS 8409 through the risk management approach including the requirement for an on-site risk assessment prior to spraying.

In the recommended provisions agrichemical use is a permitted activity as long as the NZS 8409 or parts there-of are adhered to. In particular 5.2.3 (b) requires that "Users shall take all reasonable steps to ensure that plant protection products are used appropriately and accurately, and are confined to target application areas". This is aligned to the Hazardous Substances (Hazardous Property Controls) Notice 2017 which requires that all reasonable steps must be taken to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area (Subpart B, paragraph 46). The recommended policy in these template provisions for agrichemical use is based on this Notice.

Developing planning provisions for agrichemical application is challenging as every application is unique and dynamic. The composition of the factors that need to be considered will vary between each application, but is likely to include:

- Method of application – such as handheld, motorised, aerial, UAV[2]
- Location and target area – proximity to neighbouring properties and sensitive areas
- Agrichemical used - including volatility and toxicity
- Real time factors such as weather, wind direction, wind speed, inversion layer, humidity, temperature
- Height of release and particle size
- Presence of shelterbelts or buffer zones
- Time of day.

Consideration of all these factors contributes to the risk associated with an individual application.[3] Developing an effective rule that responds to the dynamic nature of agrichemical application is challenging due to the need to provide for flexibility. A highly prescriptive rule is unlikely to achieve this. The focus of the recommended rule is on the desired outcome and setting the framework for that to occur by application of best practice in NZS 8409:2021.

Section 5.2.5.3 of NZS 8409 sets out a process of on-site risk assessment prior to application of agrichemicals to ensure that these factors are considered and that the job can be done safely and effectively given the conditions at the time.

The recommended rule includes an on-site risk assessment to be undertaken prior to application. NZAET will provide a template for an on-site risk assessment on the Growsafe website along with other templates such as spray plans and spray diaries.

Specific aspects in relation to managing the risks associated with agrichemical use through practical guidance are addressed in the following sections of NZS 8409:2021 including:

Planning	Appendix G2
Notification	Appendix G3
Signage	Appendix G4
On-site risk assessment	Section 5.2.5.3
Record keeping	Section 5.2.6.1
Disposal	Section 6
Competency	Appendix D3.3

[2] Unmanned aerial vehicle also known as drones

[3] Appendix H of NZS 8409:2021 provides details of all these factors

Section 5.2.5.8 of NZS 8409 sets out a summary of tasks associated with an application of an agrichemical. These tasks are divided into four stages:

- Prior to application
- Immediately prior to application
- During application
- After application.

The recommended Rule 2 is structured to align with the different stages, so it is clear what the requirements are at each specific stage, in respect to the aspects of the activity that relate to regional council responsibilities for discharges under the RMA.[4]

Definitions

Definitions are included to provide certainty about the use of terms in the provisions. Definitions from other sources such the RMA or NZS 8409:2021 have been used (with minor modifications where required). Where these terms are used, they are underlined in the provisions. These include:

- Aerial application
- Agrichemicals
- Applicator
- Biosecurity emergency
- Biosecurity response activity
- Contractor
- Direct supervision
- Handheld low-pressure application
- High human toxicity
- Off target spray drift
- On-site risk assessment
- Person in charge (PIC)
- Public place
- Sensitive area
- Spray plan
- User
- Water.

Structure of the Proposed Rules

Current regional plans use different structures for their agrichemical rules. Some use the type of equipment (motorised or not), others use application place (private property or not), or type or operator (commercial or domestic). We propose a structure based on the risk of adverse effects.

The provisions include:

- Policies

[4] There are aspects of agrichemical application that are not related to the actual discharge – such as provision of PPE.

- Rule 1 for application of low toxicity products using handheld low-pressure equipment in non-public places in accordance with label instructions
- Rule 2 for discharges into air or into or onto land or into or onto water not covered by Rule 1
- Rule 3 for discharge of agrichemicals for biosecurity purposes in the event of an unwanted organism incursion.

The intent of Rule 1 is that low risk activity using handheld low-pressure equipment and low toxicity products has a rule linked to the level of risk of the activity. Low pressure has been used as the distinguishing feature rather than motorisation due to the growing range of technology, for example, battery operated knapsacks which do not require hand pumping. Intent is to include low-pressure knapsacks and weed wipers but exclude mist blowers and gun sprayers in this category.

Rule 2 includes all other application, including application in places to which the public have access, and all motorised application (ground-based and aerial), all application into or onto water, all application of products with high human toxicity, and all off-label use[5]. The recommended Rule 2 incorporates discharges to air, land and water, but these could be separated into separate rules if appropriate.

Public place has been defined as it is in NZS 8409:2021 which incorporates the likelihood of public being present as well as the theoretical possibility of presence. For example, a golf course or school is a private property but likely to have public accessing the grounds regularly, whereas a rural roadside or remote conservation estate are public property but unlikely to be accessed by the public.

A separate rule is included to provide for discharge of agrichemicals in the event of an incursion of an unwanted organism that requires control under the Biosecurity Act 1993. While biosecurity is managed under the Biosecurity Act 1993 Regional and District Plans may present regulatory hurdles to the response and management of unwanted organisms which could impact on response times and methods.

Section 32 discussion

Note – this guidance note could form part of a Section 32 report considering costs and benefits of the rules within regional plans.

Option 1: Status quo

The advantages and disadvantages of this option will depend on the existing regional plan. Some plans have impractical requirements in them or result in unintended consequences, such as prohibiting all off-label use of agrichemicals.

We note that most regional plans incorporate an earlier version of NZS 8409 (usually 2004). This version did not include key provisions of interest to regional councils such as notification and signage. The 2021 version has addressed these topics.

The requirement for regional variations is minimal if they exist at all for agrichemical use. Continuing with diverse regional approaches to rules for agrichemical use increases the consultation load for all sectors using agrichemicals during the plan development phase. There are also multiple organisations operating across regional boundaries and significant differences in regional plan rules creates an unnecessary administrative burden.

[5] Off-label use is defined in NZS 8409:2021 as "use of an agrichemical for purposes, or at rates, other than the label guidance". Appendix C3.2 provides guidance for off-label use of agrichemicals.

Option 2: Prescriptive rules

Attempting to control the risks of agrichemical use through a prescriptive set of rules is not feasible. There are multiple risks to manage and a multitude of ways to manage those risks of agrichemical use. A prescriptive approach would be voluminous and inevitably result in unworkable requirements or perverse outcomes. Additionally, it does not future-proof the plan, for example, for technology or product changes.

The consultation process for prescriptive approaches to regional plan rules would also be challenging with past arguments centering on details such as the size of buffer zones or timing of notification.

Option 3: Risk-based approach based on NZS 8409

This option recognises the existence of a set of agreed practices for agrichemical use. The Standard incorporates the result of significant consultation with agrichemical users and the wider public. During its development, there was significant detailed debate over many elements – more than could be undertaken for regional plan development – and workable solutions found by consensus. Also, industry groups representing agrichemical users have been consulted on this template rule and their feedback incorporated. As a result, the consultation process on any new rule using this template will be greatly simplified.

This template uses a risk-based approach which covers a wider range of risks than currently covered in regional plan rules. There is guidance available on how to enforce provisions withing regional plans based on the Standard.

Lastly, adoption of this template rule will ensure that there is consistency between regions.

We note that an online copy of NZS 8409:2021 is freely available to all holders of a Growsafe certificate (> 26,000 agrichemical users).

A model set of provisions for regional plans follows.

Model rule for agrichemical discharges into air and into or onto land or water

NZS 8409:2021 Section 5.2.5.8 sets out a summary of tasks and the proposed rule follows the format by including matters which are within the scope of a regional council plan.

	Provision	**NZS 8409:2021 references**	**Explanatory note**
Policy 1	All users of agrichemicals shall avoid, remedy or mitigate adverse effects arising from their discharge and ensure that all reasonable steps are taken to minimise risk to the environment and people.	2.3.1 5.2.3 (b)	
Policy 2	All users of agrichemicals shall ensure that there are no significant adverse effects beyond the property boundary, including noxious or dangerous effects.		Property boundary used rather than application area as the owner of the property can determine whether there is any risk to adjacent areas of their own property.
Rule 1	The discharge of agrichemicals into air or into or onto land using handheld low-pressure equipment is a permitted activity provided:		Refer to the definition of low-pressure handheld equipment
1	The application site is not a public place.		Ownership is not the key issue but rather public access. Schools and golf courses, for example, are generally accessible to the public.
2	The application is undertaken in accordance with label instructions.		Off-label application must be permitted for commercial users – a number of regional plans currently prohibit this. Off-label use is important for small-scale crops which are not specified on the label (for example persimmons), for challenging pest management such as wilding pines, and for alternative application rates used in UAV spraying or low volume spraying practices. Off-label use is permitted under Rule 2.
3	The agrichemical applied does not have a high human toxicity hazard classification.		Note that the use of products with high human toxicity are prohibited by the EPA outside of the workplace.
4	All reasonable steps are taken to ensure that the discharge does not result in off-target spray drift that could cause		Taking reasonable steps includes adopting best practices and methods for reducing potential for off-target drift set

	adverse effects to sensitive areas, taking particular note of changes in wind speed and wind direction during the application.		out in NZS 8409:2021, particularly Section 5 Management of Agrichemicals.
5	There is no direct discharge into or onto water.		
5	Contractors must hold, or be under the supervision of someone holding, a minimum of a Growsafe Standard certificate.		EPA rules require this for agrichemicals with a high ecotoxicity classification.
Rule 2	The discharge of agrichemicals into air or into or onto land or water other than that covered by Rule 1 is a permitted activity provided the following conditions are met:		This rule is to cover motorised application including aerial and UAV; and application of any type in a public area, including into air, or into or onto land or water; or any off-label applications.
1	**Before applying agrichemicals:**		
a)	Planning: The person in charge shall prepare a spray plan and advise owners or occupiers of sensitive areas likely to be directly affected by the application of agrichemicals that a spray plan has been prepared and is available on request in accordance with NZS 8409:2021 Section 5.2.5.1 and Appendix G2. The spray plan shall also be provided to the Regional Council on request.	5.2.5.1 G2	
b) i)	Notification: The person in charge shall ensure that notification to owners or occupiers of sensitive areas is undertaken in accordance with NZS 8409:2021 Section 5.2.5.2 and Appendix G3, unless otherwise agreed in writing with the affected party.	5.2.5.2 G3	NZS 8409:2021 requires notification where motorised application is within 50m of a sensitive area; and application in a public place requires notification of potentially affected parties.
ii)	The person in charge shall ensure that notification to owners or occupiers of sensitive areas within 100m of aerial application is undertaken in accordance with NZS 8409:2021 Section 5.2.5.2 and Appendix G3, unless otherwise agreed in writing with the affected party.	5.2.5.2 G3.2 Note 5	
iii)	For application into or onto water, the person in charge shall ensure that notification of the proposed discharge is given to:	G3.2 Note 4	

	• every person taking water for potable water within 1 km downstream of the proposed discharge at least 12 hours prior to the discharge occurring; and • every holder of a resource consent for taking of water for water supply purposes within one kilometre downstream of the proposed discharge no less than 24 hours and no more than one week prior to the proposed application.		
c)	Signage: The person in charge will ensure that signage in accordance with NZS 8409:2021 Appendix G4 is in place prior to commencing application.	G4	
d)	Competency: The person in charge shall ensure that the applicator is trained and competent to undertake the application.	5.2.7 D3.3	HSWA specifies certification for products with very high human toxicity; requires but does not specify training for other substances with human health risks. Its focus is on the workplace. EPA requires certification for highly ecotoxic products using motorised application equipment. Regional plans need to cover training for lower level ecotoxicity and agrichemicals without any hazard classifications; and risks of application in public places in particular to adequately manage potential for spray drift.
i)	On a private property, a. for ground-based application by a contractor, the application must be under the control of someone holding a Growsafe Registered Chemical Applicator (RCA) or Advanced certificate with the relevant endorsement. The applicator must: i. Hold a Growsafe RCA or Advanced certificate; or ii. Be under the direct supervision of the person holding a Growsafe RCA or Advanced certificate; or	D3.3.1 D3.3.2	A distinction between spray contractors and other applicators for required certification is made by EPA and is based on managing risk. Contractors apply agrichemicals at multiple locations and need to be more capable of identifying and managing different situations. In many cases, they are also spraying frequently.

	iii. Hold a Growsafe Standard certificate and be under the indirect supervision of the person holding a Growsafe RCA or Advanced certificate; b. for ground-based applications undertaken by applicators other than contractors, the applicator must hold, or be under the supervision of someone holding, a minimum of a Growsafe Standard certificate.		
ii)	For ground-based application in a public place: a. for application of agrichemicals without a high human toxicity hazard classification using handheld low-pressure equipment, the application must be under the control of someone holding a minimum of a Growsafe Standard certificate; b. for all other application, the application must be under the control of someone holding a Growsafe Registered Chemical Applicator (RCA) or Advanced certificate with the relevant endorsement. The applicator must: i. Hold a Growsafe RCA or Advanced certificate; or ii. Be under the direct supervision of the person holding a Growsafe RCA or Advanced certificate; or iii. Hold a Growsafe Standard certificate and be under the indirect supervision of the person holding a Growsafe RCA or Advanced certificate.	D3.3.2	
iv)	Helicopter, fixed wing or UAV operators undertaking aerial application must hold a Pilot Chemical Rating.	D3.3.3 D3.3.4	Current legal requirement for UAVs is that they operate under a Part 102 certification held by the organisation they work for. Proposal is that they hold an individual certification of competency.
2	**Immediately prior to application**		
a)	On-site risk assessment: Immediately prior to the application, the user shall undertake an on-site risk assessment for the application site in accordance with NZS 8409:2021 Section 5.2.5.3 and with reference to the requirements of the spray plan, giving specific	5.2.5.3 H5 Table H1	

	consideration to factors listed in NZS 8409:2021 Table H1 Drift Hazard Guidance Chart to ensure that adequate measures are in place to minimise potential adverse effects on sensitive areas from off target spray drift.		
3	**During application, the user shall:**		
a)	Good practice: Undertake the application in accordance with the good practice requirements set out in NZS 8409:2021 Section 5.2.	5.2	
b)	Off target spray drift: Take all reasonable steps as set out in NZS 8409:2021 Sections 5.2.3 and 5.2.5.7 to ensure that the discharge does not result in off-target spray drift that could cause adverse effects to sensitive areas, taking particular note of changes in wind speed and wind direction during the application.	5.2.5.7 Appendix H 5.2.5.8 q	Taking reasonable steps includes adopting best practices and methods for reducing potential for off-target drift set out in NZS 8409:2021, particularly Section 5 Management of Agrichemicals.
c)	Discharge to water: Ensure that there is no direct discharge into or onto water, unless the products, including any adjuvants, have been approved by the Environmental Protection Authority under the HSNO Act for discharge directly into or onto water; and the user complies with the conditions of the approval.	Definition sensitive area	There are a very small number of products (Diquat and some formulations of glyphosate) which are permitted by the EPA to be applied into water. The application of any other agrichemical requires EPA approval. There is no benefit in requiring a resource consent as well as EPA approval.
4	**Following application, the person in charge:**		
a)	Record keeping: Shall ensure that records of application are kept in accordance with NZS 8409:2021 Section 5.2.6.1.	5.2.6.1	
b)	Disposal: Shall ensure agrichemicals are disposed of in accordance with NZS 8409:2021 Section 6 and Appendix N.	Section 6 Appendix N	
Rule 3	The discharge of agrichemicals for the purposes of managing a biosecurity response activity or biosecurity emergency is a permitted activity provided:		
1	The discharge of agrichemicals is necessary for the management of material infected by unwanted organisms as declared by MPI Chief Technical Officer or an emergency		Biosecurity risks to primary production activities are significant and could have serious impact on both urban and rural communities, particularly the production of

	declared by the Minister under the Biosecurity Act 1993 provided that all reasonable steps are taken to comply with good practice set out in NZS 8409:2021 including ensuring that the discharge does not result in off-target spray drift that could cause adverse effects to sensitive areas, taking particular note of changes in wind speed and wind direction during the application.		food and conservation. There needs to be active management to ensure that threats do not enter the country and if they do that pest incursions are able to be addressed. Some responses require the use of agrichemicals for management of infected material and such use should be a permitted activity with limited conditions to ensure that it can be expedited rapidly.

Definitions:

Aerial application: Application of agrichemicals undertaken from any manned aircraft, or from a UAV (drone).

Agrichemicals: An agricultural compound that is used in any agriculture, horticulture, forestry, amenity, conservation or related land or infrastructure management activity to eradicate, modify or control flora and fauna. For the purposes of this plan agrichemicals include herbicides, insecticides, fungicides and biological agents, for example inhibitors, growth regulators, microbiological compounds (bio-pesticides), but excludes dairy detergents and sanitisers, veterinary medicines and animal health products, fertilisers, animal feed, oral nutritional compounds, vertebrate toxic agents and fumigants. Note: that references in NZS 8409:2021 use the term 'plant protection products' rather than 'agrichemicals'.

Applicator: Any person with specific responsibility for application of any agrichemical. Where application is delegated to workers it also includes persons directly supervising those workers. An applicator may be a contractor.

Biosecurity emergency: An event that meets the criteria set out in section 144 (1) (a) of the Biosecurity Act 1993

Biosecurity response activity: As defined in section 100Y (3) of the Biosecurity Act 1993.

Contractor: Any person or organisation that administers, applies, or directs to be applied any agrichemical for hire or reward.

Direct supervision: direct supervision requires the supervisor to be present at the application site. It requires the supervisor to provide detailed instructions, be aware of the worker's actions and be able to intervene or correct actions in a timely manner if required.

Handheld low-pressure equipment: application equipment for agrichemical use where the application system is not air-assisted and is not capable of exceeding 5 bar of pressure, and where the spray application equipment is held by the applicator and directed by the applicator at the target species.

High human toxicity (as defined in NZS 8409:2021): Property of an agrichemical with high hazard classification for human health. Includes products classified as acute toxicity categories 1 to 3, germ cell mutagenicity category 1, carcinogenicity category 1 and skin corrosion categories 1A and B.

Off target spray drift: the movement of airborne agrichemical as droplets, vapour, or solid particles away from the target application area.

On-site risk assessment: A risk assessment undertaken at the application site immediately prior to spraying. (Refer NZS 8409:2021 5.2.5.3.)

Person in charge (PIC): Any person or organisation at whose direction, or upon whose authority an agrichemical is used. When used in relation to obligations under the HSWA this has the same

meaning as a ‘person conducting a business or undertaking’ (PCBU). The PIC may also be a user of agrichemicals.

Public place: Any place freely open to and frequented, or likely to be frequented, by the public.

Sensitive area: In relation to discharge of agrichemicals sensitive areas are areas with an identified risk of suffering an adverse effect as a result of unintended exposure to agrichemicals. The following are examples of sensitive areas (except where the area involved is the intended spray target):

a) Residential buildings
b) Commercial buildings
c) Educational facilities, playgrounds and care facilities
d) Public places and amenity areas where people congregate or are able to freely access
e) Public water supply catchments and intakes
f) Water bodies and associated riparian vegetation
g) Sensitive crops, animals or farming systems (for example organic farms, greenhouses, traditional food and herb gathering area, beekeeping)
h) Wetlands, indigenous vegetation habitat areas, reserves and amenity areas; and
i) Public roads.

Spray plan: Document developed by a person in charge (PIC) that describes the areas to be sprayed, provides information regarding the application and identifies sensitive areas and strategies to minimise the risk to those that may be affected. (Refer to NZS 8409:2021 Appendix G2.)

User: A person who uses any agrichemical or who directs any agrichemical to be used. User includes applicators and contractors and may also be the person in charge.

Water: (a) means water in all its physical forms whether flowing or not and whether over or under the ground; (b) includes fresh water, coastal water, and geothermal water; (c) does not include water in any form while in any pipe, tank, or cistern.