

3. Seed Integrity, Genetics and Pollen Management

Protecting Genetics for Future Generations

NZHIA Industrial Hemp Knowledge Series

This publication introduces the topic of “seed integrity” and focuses on “cross pollination” which is a big risk for the iHemp industry, as we are a wind pollinated plant

The NZHIA thanks and acknowledges the Aotearoa Hemp Alliance for providing the following information on pollen control.

Reputable seed sources

NZHIA Seed project – for small orders, trialists

Commercial seed merchants – for commercial farmers, buying full sacks of seed (25kg-40kg)

- [Carrfields Seed](#)
- [Midlands - bulk Supply of Premium Hemp Seed for Sowing - Midlands](#)
- [Midlands Seed Ltd » Our Members | SGNZ | Seed and Grain New Zealand](#)

Forward

To develop the iHemp industry, improved genetics will be required, as increasing yield improves the returns for the farmers and growers.

The 2026 regulations had an approved cultivar list, we have added the companies supplying these seeds and the information can be found [here](#)

Selecting the right cultivar for the intended end use (seed, fibre, biomass and specialised industrial applications.) will become an increasingly important part of successful hemp production and processing.

Continued breeding and selection will play an important role in developing varieties specifically suited to New Zealand growing conditions and industry needs.

A seed certification system has been discussed, but it is not yet implemented so the seed industry voluntarily self regulates, and we encourage you to honour the relationship between seed breeder and the growers. And communicate with nearby growers about pollen issues.

Growers considering importing seed should be aware that imported hemp seed must comply with New Zealand's biosecurity requirements. Separate Import Health Standards apply depending on whether the seed is intended for [sowing](#) or [processing](#).

What is Seed Integrity?

Seed integrity is the preservation of a cultivar's genetic identity and performance over time. A grower expects seed sold under a particular cultivar name to produce plants with consistent growth habit, flowering time, maturity, yield potential and end-use characteristics.

Maintaining this consistency requires attention throughout the production cycle. Poor pollination management, accidental cross-pollination, poor storage, volunteer plants and inadequate record keeping can all reduce genetic purity.

Loss of seed integrity may result in:	Unwanted cross pollination, when suitable isolation distances are not observed can affect
• inconsistent crop performance • uneven flowering and maturity • variable cannabinoid expression • reduced fibre or grain quality • poor germination and establishment • lower processor confidence • loss of market value.	• seed multiplication crops • certified seed production • breeding programmes • medicinal cannabis flower production • neighbouring outdoor hemp crops • future seed quality

Highlighting and dealing with the cross-pollination risk is a big part of the NZHIA Seed Project. We are supporting the industry by helping handle pollen drift enquiries, to identify possible issues and encourage voluntary communication between growers, based on the grower information we receive.

Please note all grower information is kept private in accordance with our seed project privacy policy

Good seed is more than something to plant—it is the foundation of every future crop.



- update on Pollen Control in Hemp Production in New Zealand – Provided by Aotearoa Hemp Alliance

This document outlines key risks and related best practice associated with pollen control in hemp (*Cannabis sativa* L.) production in New Zealand, aligned with transitioning regulatory settings (May 28, 2026, onwards).

1. Regulatory Context in New Zealand (May 28, 2026)

New Zealand has recently modernised its hemp regulatory framework. Cabinet-approved reforms remove routine licensing requirements for hemp, increase the allowable THC threshold to less than 1 percent, and permit the supply of Hemp plant material (including flowers and leaves) to licensed Medicinal Cannabis producers. Growers must notify Police and the Ministry for Primary Industries (MPI) before planting, and all applicable Food Safety, Agricultural Compounds and Veterinary Medicines (ACVM), and Medicinal cannabis scheme requirements continue to apply.

[Misuse of Drugs Amendment Regulations 2026 | New Zealand Legislation](#)

[Police Guidance](#)

[MPI Guidance](#)

[Ministry of Health Guidance](#)

While pollen control is not explicitly prescribed in regulation, growers are responsible for ensuring their activities do not cause downstream compliance issues, commercial harm, or genetic contamination.

2. Why Pollen Control Matters

Hemp is a wind-pollinated species and male plants produce very large quantities of pollen during flowering. Hemp pollen has been reported to be able to travel more than 10km in the right conditions, and New Zealand's open arable landscapes, particularly in regions such as Canterbury and Hawke's Bay, are very amenable to this.

Unwanted pollen drift may affect neighbouring hemp crops, medicinal cannabis operations, breeding programmes, seed multiplication crops, and growers attempting to maintain stable genetics.

Unmanaged pollen can result in seeded flower crops, reduced cannabinoid yield (2-3x reduction potential), contamination of neighbouring hemp crops, compromised seed integrity and genetic purity, loss of seed certification following harvest, and long-term THC compliance risks through contaminated seed progeny (unstable cannabinoid levels including THC).

The above risks may lead to commercial disputes, rejected contracts, and potentially legal action for lost revenue between growers, if responsible pollen management is not undertaken.

3. Best Practice for Pollen Control

3.1 Spatial Separation and Crop Layout

Although no statutory isolation distances are set in New Zealand regulations, growers should maximise separation between pollen-producing crops (e.g. fibre or seed hemp), and between pollen-producing crops and flower crops (female plants only). Seed production, particularly certified or proprietary lines, demands the strictest cross-pollination controls. OECD seed certification standards as an example require 4800m spatial separation for higher generation seed production (*Table 1.*) to stop cross pollination occurring. Growers therefore need to avoid planting hemp near other hemp or medicinal cannabis sites, and coordinate planting and flowering periods with neighbouring growers where possible.

Table 1: Isolation Distances from OECD seed certification scheme for Dioecious varieties of Industrial Hemp.

DIOECIOUS TYPES	TO PRODUCE CLASS	OTHER CROPS	ISOLATION DISTANCE
	<i>Breeders/Foundation</i>	i) Different varieties of industrial hemp	4800m
		ii) Non-certified crops of same kind	4800m
		iii) Lower certified class seed crop of same variety	2000m
		iv) Same variety and class of certified seed	5m
	<i>Basic/Registered</i>	i) Different varieties of industrial hemp	4800m
		ii) Non-certified crops of same kind	4800m
		iii) Lower certified class seed crop of same variety	1600m
		iv) Same variety and class of certified seed	1m
	<i>1st Generation/Certified</i>	i) Different varieties of industrial hemp	800m
	<i>2nd Generation</i>	ii) Non-certified crops of same kind	800m
		iii) Lower certified class seed crop of same variety	200m
		iv) Same variety and class of certified seed	1m

3.2 Notification and Record-Keeping

Growers must notify Police and MPI of crop locations before planting. Robust records should also be maintained, including cultivar details, intended end use, and flowering windows. Documentation of pollen management practices helps demonstrate due diligence. Growers will ideally also communicate with reputable seed suppliers and industry groups on matters relating to Pollen control, while still protecting privacy and commercial IP.

3.3 Controlled Environments and Breeding

For breeding, seed production, or high-value flower production systems, physical isolation and controlled airflow albeit at a higher cost (such as greenhouse separation and filtration), are strongly recommended to prevent cross-pollination.

4. Further Grower Responsibilities

When deciding to plant hemp outdoors for any end use, a grower should consider the following steps relating to Pollen control.

1. Consider the history and geography of the region the grower intends to plant in, to determine if your crop is a risk to your neighbours and other local growers. For example, high density of certified seed production in Canterbury, Medicinal Cannabis production in Marlborough etc.
2. Where possible, develop an understanding of regional growing activity in your local area, and the related pollination risks.
3. If you are growing for seed, grain or fibre, make contact with the NZHIA who will then be able to advise on any potential pollen risks and who to contact in order to mitigate these risks, depending on your intended production location and type of crop. [Welcome to the NZ Hemp Industries Association! - New Zealand Hemp Industries Association](#)
4. If you are growing for biomass (i.e. leaves and flowers), liaise closely with your Medicinal Cannabis license holder and offtake partner re pollen control, and make contact with the NZMCC on potential pollen risks for your intended production location and type of crop. [New Zealand Medicinal Cannabis Council](#)
5. Purchase your Hemp seed for sowing from a reputable supplier, who will also be able to assist with the identification of potential pollen risks for your intended production location and type of crop. [Aotearoa Hemp Alliance](#)
6. Ensure you are planting a recognised cultivar with a clearly defined flowering window, and where possible purchase Certified sowing seed.
7. Ensure you are planting a compliant low THC (<1% THC) cultivar so no downstream compliance issues are raised.
8. Communicate with neighbouring growers where practical, including your understanding of the flowering timing of your hemp crop.
9. Rogue adjacent areas to your hemp crop for any volunteer hemp plants from previous productions.
10. Ensure fibre crops are cut prior to pollen shed.
11. Ensure flower crops (female only plants) are rogued for male plants and volunteer plants within the crop.
12. Support a professional, respectful, and collaborative industry culture, to help manage pollen control.

6. Summary

Under New Zealand's reformed hemp regulatory framework, pollen control is a critical element of responsible crop management. Best practice relies on appropriate genetics, spatial planning, intensive monitoring, and clear communication with regulators and neighbouring growers. Effective pollen management protects crop value, regulatory compliance, and the long-term credibility of the New Zealand hemp industry.



The NZHIA thank AHA for providing this information on cross pollination

Every Grower Has a Role

Seed integrity is a shared responsibility.

Every grower contributes to protecting the reputation of New Zealand industrial hemp by selecting quality seed, managing pollination responsibly, maintaining accurate records and supporting good industry practice.

As the industry grows, collaboration between growers, seed suppliers, breeders, researchers, processors and industry organisations will become increasingly important.

Protecting genetics is not simply about individual crops—it safeguards future breeding opportunities, strengthens market confidence and supports the development of a sustainable, internationally respected New Zealand hemp industry

Industry Responsibilities

Every participant contributes to protecting the integrity and reputation of New Zealand's industrial hemp industry.

Growers should:

- source quality seed from reputable suppliers
- maintain cultivar and crop records
- understand and minimise pollination risks
- monitor crops for volunteer and off-type plants
- store planting seed appropriately
- support responsible breeding and genetic stewardship
- work collaboratively with neighbouring growers where practical.

Strong seed integrity supports better crops, stronger markets and a more resilient industry.

Important Reminder

Industrial hemp cultivation and food production remain the responsibility of the grower and processor.

Growers remain responsible for:

- understanding applicable laws
- food safety obligations
- THC, CBD compliance (if any)
- traceability
- testing requirements
- and market suitability

NZHIA provides general educational guidance only.

And does not provide legal, agronomic, food-safety, medicinal-cannabis or commercial certification.

NZHIA encourages growers to support a professional, traceable, and high-quality hemp food industry across New Zealand

Continue Your Learning

The remaining publications in the [NZHIA Knowledge Series](#) build progressively on this introduction:

- **Publication 1 – Introduction to Growing Industrial Hemp:** Planning, site selection and crop establishment.
- **Publication 2 – Harvesting and Storage:** Maintaining crop quality after harvest.
- **Publication 3 – Seed Integrity, genetics and pollen management,** cross pollination risk
- **Publication 4 – Growing for Food Markets:** Producing high-quality food-grade hemp seed.
- **Publication 5 – Growing for Medicinal Supply:** Understanding regulated medicinal cannabis supply chains.

Together, these publications provide a practical guide for small scale growers, NZHIA Seed Project participants and anyone interested in understanding and contributing to New Zealand's industrial hemp industry.

Disclaimer

This publication has been prepared by the New Zealand Hemp Industries Association (NZHIA) as general educational information for home growers, participants in the NZHIA Seed Project and members of the industrial hemp industry.

The information is intended to support good growing and harvesting practices but should not be relied upon as legal, regulatory, agronomic, food safety, medicinal cannabis or commercial advice. Requirements may vary depending on the intended end use of the crop, applicable legislation and processor specifications.

Growers remain responsible for complying with all relevant legislation, licence conditions and contractual obligations. Readers should consult the [Ministry of Police](#), [Ministry for Primary Industries](#) (MPI), the [Ministry of Health](#) and other relevant authorities for current regulatory guidance.

NZHIA encourages all participants to contribute to a professional, innovative and trusted industrial hemp industry that delivers lasting economic, environmental, health and social benefits for Aotearoa New Zealand.