

# **New Zealand Seed Crop Isolation Distance Mapping Scheme**



## **Code of Practice and Regulations 2024**

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## 1.0 Background and Overview

The SCID scheme was developed to replace a manual isolation checking process, developed by a group of merchants involved in the production of high value cruciferous forage and vegetable seed crops. It was set up to identify clashes but not resolve them. The checking process was developed in 1998 to optimise pollination isolation distances between crops for varietal purity and minimise potential crop loss through cross pollination.

The SCID scheme was developed through a MAF Sustainable Farming Fund project under the direction of, and with co-funding from, the Foundation for Arable Research.

It is a web-based system, which utilises AgriBase software. (AgriBase is a rural mapping programme owned byASUREQuality).

Operators log onto the website and input crop sites. The system performs an automated isolation check and returns a conflict notice if, or when, other cross-pollinating crops are entered onto the system and fall within those crops entered isolation distance. An automated Email notification is sent to the merchants of the conflicting crops to alert them of the conflict and allow them to discuss a resolution to the conflict. Members of Seed & Grain New Zealand (SGNZ), (previously New Zealand Grain & Seed Trade Association NZGSTA), agree to use the system to enter all crops covered by the system.

This system was created in response to a significant increase in Cruciferous forage and vegetable seed productions over the last 30 years. The market in 2024 was worth more than \$129 million dollars to the New Zealand economy (*Fresh Facts 2024 – New Zealand's Fresh Fruit and Vegetable Industry*. **United Fresh New Zealand Incorporated and Plant & Food Research**). Most seed produced is for the export market.

Increasing the production area for this market will depend on the ability to utilise the available land resources. The availability of clean seed production land has come under enormous pressure from alternative uses such as dairying and more recently the worldwide interest in biofuel production.

To ensure a sustainable cruciferous forage and vegetable seed production base requires:

- Adequate land resources.
- Land resources clean from contamination.
- The ability to identify potential cross-pollinating crops.
- Ability to manage pollination systems to limit accidental cross pollination by insects or windblow.

## **1.1 Purpose**

The purpose of this scheme is to avoid potential outcrossing of vegetable seed crops by maintaining isolation distances, prior to sowing, to minimise the risks of crop failure through cross-pollinating species planted too close to each other. The scheme also allows the vegetable seed industry to better utilise the available area for seed crop production.

Compliance to the scheme provides:

- A unique marketing advantage to New Zealand for gaining international seed production contacts.
- A way of minimising genetic contamination through cross pollination.
- Full utilisation of available land resources.
- A process to resolve crop site conflicts in a respectful and co-operative manner, prior to any crop costs being incurred.

Scheme membership is currently voluntary, with no mandatory or legislative requirements for operators to enter crop sites other than commitments to SGNZ members. However, for the scheme to operate effectively, all operators who are producing vegetable or cruciferous seed crops and/or seed crops used for processing (i.e. human consumption, biofuel, etc) crops that require specific isolation or paddock history requirements are strongly encouraged to use the system.

At present, there has been extensive use of the scheme across the vegetable seed sector, highlighting the vital importance of this scheme to ensure genetic purity for respective markets.

## **1.2 Principles**

There are aspects of the scheme that cannot be regulated but rely on the good faith of seed companies and seed growers for the scheme to operate effectively. These principles are:

- Users to respect longstanding merchant / grower crop production relationships.
- Users of the scheme should not add significant additional cost to crop contracts.
- Isolation distances are based on well-founded research and can be changed if reputable research data and scheme users supports the changes.

### **1.3 SCID Working Group Charter**

Established in August 2022, The SCID Working Group has been established to represent the Vegetable Seed Industry in order to address a number of issues that have been left unresolved. These issues have revolved around SCID maintenance and updating of the system, Communication and SCID Users, and a review of the Code of Practice.

The SCID Working Group is made of six Industry Delegates, a NZSA Representative and an AsureQuality Representative. The work of this group is overseen by the Chair of the Vegetable Sector of NZSA. Delegates are voted on by the wider industry every two years.

The role of SCID Management Group is to:

- Oversee the functionality of SCID system and ensure it operates to meet the needs of the participating parties.
- Oversee and maintain the 'Code of Conduct' to ensure all participating parties have a clear understanding of rules and their obligations when using the SCID system.
- Consider proposals from the wider industry regarding SCIDs role and effectiveness and make recommendations for Industry endorsement.
- Be first point of contact for all matters SCID between all invested parties including Seed Companies, Growers, NZSA and AsureQuality.
- Keep all users of SCID informed about any proposed upgrading or changes to Code of Conduct and isolation distances.
- Liaise with both NZSA and AsureQuality regarding expenditure of SCID fund as and when necessary.
- Act in good faith and protect the interests of all SCID users and the industry as a whole.

## 2.0 The Process

The Code of Practice commit Merchants and Growers to abide by the guidelines laid out in this document. All users of the system **must have** completed a registration form (as per Appendix 4.1) as per with SGNZ obligations covered by the SCID system they have contracts with.

### Merchants agree to:

- Enter all crops in which they represent into the SCID scheme.
- Communicate in good faith within the confines of the Code of Practice and ensure amicable resolution to all crop conflicts, as per these regulations.

### Growers agree to:

- Communicate with their neighbours to identify any potential cross-pollinating crops (as per Appendix 4.3) within the isolation distances required.
- Once the crop is “Confirmed” on SCID, an email is generated automatically and sent to the Grower. If the Grower has received the email for a crop confirmed on their property, it is their responsibility and obligation to communicate with neighbours and to check and assess paddock history.

## 2.1 Registration

All users are required to register (see Appendix 4.1). Users wishing to enter crop sites must register as merchants. Website registration is optional for growers. There are two registration options available:

### 1. Merchant:

- Able to enter crop sites on the properties from their grower lists.
- Can edit the crop site entries to change species, isolation distances or add information such as commit, sown and flowering dates.
- Receive automated emails of crop conflicts when they occur.

The merchant’s registration includes the requirements to provide a grower list. Adding new growers to registered merchant’s list must be done through the scheme administrator. This can be by email, phone, or using the grower list form (see Appendix 4.1) and emailing it to the administrator.

## **2. Grower:**

- Able to view crop sites on their property.
- Receive automated emails when a merchant Commits a crop site on their property.

## **2.2 Operating Times**

The website is available for use every day. Exceptions to this will be disruptions to power supply, when there are system maintenance requirements or for enabling enhancements. If the system is to be taken offline, the administrator will endeavour to notify users 24 hours before the shutdown and when the system is back online.

## **2.3 Crop Site Entry**

Crops are to be booked onto the website as soon as reasonably practicable of merchant and grower discussions to identify a potential crop site. Accuracy of plotting the site is of vital importance. This is particularly so where the map scheme no longer matches the re-fencing of farms where previous boundaries no longer exist.

There are two crop entry period classifications: these are Autumn and Spring.

**Autumn:** From 1<sup>st</sup> January through to 30<sup>th</sup> June

**Spring:** From 1<sup>st</sup> July through to 31<sup>st</sup> December

Please ensure that bookings are completed in the recommended periods. Plotting earlier will still be recognised by the scheme but clarity on Year Sown and Season will need to be correctly inputted.

## **2.4 Crop Site Digitising**

- a. Ensure “zoom” levels on GIS map window is close enough to accurately digitise crop site. Avoid overlapping other sites or boundary lines.
- b. Use as many digitising points as needed when entering sites bordering on rivers/gullies/ road boundaries.
- c. Ensure digitising is completed in either a clockwise or anticlockwise direction.
- d. Name site with Region or Production (ROP) number and paddock letter where possible.

- e. If digitising a part paddock, add a direction to the paddock letter e.g. A1234 BN(North).
- f. After completing the digitising process, the site is available to book.
- g. Upon booking the site a drop-down box for Grower and Species will require selecting.
- h. The Isolation distance will be set at a default which is recognised by the Seed Industry.
- i. Adjustments to Isolation can be manually set.
- j. Confirm Year Sown and Season is correct for the specific booking
- k. Press Check Conflicts and either adjust booking (if required) or proceed with booking either creating a conflict or confirming that the Isolation is clear.

## **2.5 Booking Crop Sites**

Booking must be completed as soon as reasonably practicable of an agreed crop site being identified with the growers. This then begins a process of entering crops through the stages of Booked, Committed and Sown.

The Booked Stage is the first step when a Seed Merchant Company has plotted a site following the processes met in the previous section.

The Committed Stage is the second step when the Seed Merchant edits a crop which has been booked. This is done manually by pressing the Edit button and inputting the Commit Date. It is at this point that the Grower will receive an alert via email. Please undertake to get to this stage as soon as possible.

The Sown Stage is the third and final stage where the Seed Merchant edits a crop upon sowing to indicate that the crop has now been planted.

Further options for editing include the inputting of Flowering Date (estimate) and if the crop is subsequently Cancelled. These options are available to assist in the securing of further Isolations.

## **2.6 Crop Site Isolation Conflict Warning**

The booking process for a crop site may generate an isolation conflict warning. If a conflict is about to be generated, an automatically generated warning will prompt the user that a conflict will occur if the user proceeds. Upon confirming, an automated email will be sent out to the affected merchant(s) if the inputting merchant completes the booking process.

For Merchants – The email will identify the merchant generating the conflict, the species, the unique SCID reference number, the isolation distance required, and the current crop site status (i.e. Booked, Committed or Sown).

For Growers – An email will be sent out to inform the Grower of the booking only upon the Crop being edited to the Committed Stage. No email is sent out if Conflicts occur. It is therefore the obligation of the Seed Merchant to communicate with the Grower if conflicts occur.

## **2.7 Contact Responsibility**

The Seed Merchant generating conflict(s) is primarily responsible for contacting the affected parties to resolve the conflict(s). This can be done by any means, including infield inspections, phone calls, text or email within three working days of entering the conflicting crop. All issues must be addressed. It is important to note that not contacting affected parties does not secure the isolation.

## **2.8 Conflict Resolution**

The SCID program is only set to highlight the conflict and not to provide the means to resolve the isolation conflict. It is up to the Seed Merchant and Growers to seek isolation resolution in good faith between all parties.

Dependent on the outcome of the negotiations, the following steps will need to be actioned:

- If the crop species creating the conflict is to be changed to either the same variety, a within type species, a non-cross-pollinating species or to another location on the property, but outside of the isolation zone, this must be actioned within three working days.
- If the new change creates a further isolation conflict, then the isolation conflict warning process will need to be repeated.
- The crop causing the conflict may not be edited and moved to a new site with the previous reference number.
- The new entry generated in a new site must result in a new reference number.
- In the Edit Crop Actions, if the crop creating the conflict is withdrawn, this must be actioned within three working days and edited to Delete Booking and the Cancel Date filled in on the SCID program.

- Following any of the above actions, notification in writing by email or text or a phone call to confirm that the conflict has been resolved by all parties and that no further action is required.

## 2.9 Disputes

Resolving disputes involves both the Seed Merchants and Growers affected and must be undertaken in spirit of good faith with all parties involved.

If a resolution to an isolation issue cannot be resolved between the Seed Merchants and affected Growers, then this must be passed onto the merchants' management. If resolution still cannot be achieved, then the isolation issue must go to an Advisory Body made up from the SCID working committee consisting of members who do not have a conflict of interest. If following these processes, resolution can still not be achieved, then an independent arbitrator must be appointed to resolve the dispute.

**Note: The Arbitration Act 1996** [Arbitrators' and Mediators' Institute of New Zealand \(aminz.org.nz\)](http://aminz.org.nz)

## 2.10 Historical Rights to Isolations

Historical rights to isolation are important to maintaining security for both the grower and the Seed crop. They revolve around actual plantings, each season, and are tied specifically to crop types that are in the SCID system.

The below guiding principles to these historical rights are based on good faith from all parties involved:

- The Grower maintains the isolation by continuing to grow the crop type each season.
- The Grower with the longest length of seasons growing a specific crop type, on a specific land area, maintains the isolation rights, and in good faith can secure rights to grow ahead of other growers in the area.
- Historical Rights are crop specific and do not automatically include other crop types.
- The Grower on a specific land area, maintains the right to choose which Seed Merchant company they grow with.
- The Seed Merchant does not hold the rights to the isolation but can compete with other Merchants for the grower who holds the isolation.
- To maintain historical rights, the Grower and Seed Merchant Company must book their isolation on the SCID system no later than 25<sup>th</sup> August of each season for Spring.

- To maintain historical rights for Autumn the crop must be booked no later than 20<sup>th</sup> January for carrot, red beet, rape, autumn kale, autumn radish and other zones for historical rights to be kept.
- Failure to book a crop site on SCID by 25<sup>th</sup> August (Spring), 20<sup>th</sup> January (Autumn) or 1<sup>st</sup> March (Autumn rape, turnips and swedes) will open the isolation rights to other parties.
- If the Isolation Right is lost due to missing a crop cycle or failing to book the crop before the 25<sup>th</sup> August, then the Isolation Right reverts to “Year Zero” of historical rights. This is unless agreed and confirmed to by other effected parties (Seed Merchants and/or Growers) in writing.
- Allowing the opportunity for other Growers to grow in the historical isolation zone involves the goodwill of all parties. This includes both the Growers specific land area and the Seed Merchant companies striving to maintain genetic isolation for the original Grower. Options for other Growers include same varieties, similar (within type) species or the use of other non-crossing species.
- If a grower has multiple farm locations, it does not mean that historical rights from one farm are automatically transferred to another farm in another region. The historical rights are maintained and kept with the original block that vegetable seed productions were grown.
- Placing a SCID plot on the system at the earliest time possible does not by right ensure a first in first right to the isolation. Again, historical rights prevail provided the crop is plotted before the cutoff dates of 25<sup>th</sup> August in Spring or 20<sup>th</sup> January in Autumn.
- Leasing of the farm – when a lease ceases, and a new grower takes on the lease of the home block the isolation remains with the specific land area.
- Selling of the farm – historical rights stay with the farm with the agreement the same crop types will be sown, otherwise the historical rights will revert to year zero.
- If you change the crop type annually, you lose the historical rights and will revert to year zero. This is unless it is agreed to and in writing by all affected parties.

## **2.11 Autumn and Spring Isolation Clashes**

The SCID system is set up to generate Isolation conflicts with current Spring entered crop sites(s) upon entering Autumn crop sites for the following season.

This is to alert Seed Merchants of the current Spring crop to a potential conflict for the next seasons Spring crop placement sites.

This is to ensure that next season Spring crops do not automatically lose isolation to Autumn sown crops.

As per all conflicts, it is the primary responsibility of the Seed Merchant that entered the Autumn crop to make contact when a clash occurs.

Historical rights to isolations are to be applied.

## **2.12 Non-entered Crop Sites**

If a crop managed by a merchant is not entered into the system and that crop is subsequently found to have an isolation conflict with a crop entered on to the scheme, then the non-entered crop will be destroyed and the responsibility to facilitate this will lie with the merchant controlling the non-entered crop.

Crops planted in a location at variance to their scheme identity are to be treated the same as un-entered fields if they cause isolation conflicts. These variances include late field change that are plotted incorrectly, incorrect species identification, inaccurate plotting of isolations causing the scheme to underestimate isolation conflicts and non-registered crops growing outside of the Seed Merchants contracts.

If un-entered crops or variances to the SCID Scheme are found prior to flowering, the affected parties should immediately try to resolve the situation. If resolution cannot be achieved, then the isolation issue must go to an Advisory Body made up from the SCID working committee consisting of members who do not have a conflict of interest. If following these processes, resolution can still not be achieved, then an independent arbitrator must be sort to resolve the dispute.

If un-entered crops are discovered through flowering or after harvest and crops are rendered valueless because of cross pollination, the affected parties (Growers and Seed Merchants) should at first mediate directly to resolve the situation. If resolution still cannot be achieved, then an independent arbitrator must be appointed to resolve the dispute. Parties who agree to go to arbitration are bound by the decision of the Arbitrator.

**Note: The Arbitration Act 1996 [Arbitrators' and Mediators' Institute of New Zealand \(aminz.org.nz\)](http://aminz.org.nz)**

## **2.13 Committing Crop Sites**

Once the crop is Booked, the crop should be edited to Committed as soon as reasonably practicable of the Merchant and the Grower crop confirming their contract. This then allows the

grower to be automatically emailed that a crop has been placed on their property to secure the isolation. This should be at least 14 days before being sown.

If a Committed crop is subsequently not going to proceed, then that crop entry must be deleted within three days of the decision not to proceed.

## **2.14 Sown Crop Sites**

The status of a Committed crop site must be changed to Sown within five working days of the grower completing sowing. If a sown crop is subsequently destroyed and a new crop is to be entered, then the administrator must be informed within five working days of the destruction of the crop.

A crop with a 'Sown' status cannot be deleted by the user due to paddock history issues. The system administrator can only edit the system to allow a new crop to be entered on that site in the same season.

## **2.15 Isolation Distances**

Distances have been set for each species recognizing Open Pollinated and Hybrid Crop types. The set minimum distances for each species recognizes pollen type and transfer and historical evidence of outcross occurrences in the industry. These distances can be found in Appendix 4.3.

Where a species is included in the NZ Seed Certification program, the minimum distance is the maximum for the highest certified class of seed. These crops have been set to cross with Non-Certified Seed Productions.

Minimizing the distance in field cannot occur unless by agreement of all parties effected with evidence that potential crossing between crops will not impact either party.

If seed companies require greater isolation distances than the preset distances, to ensure genetic purity for high-risk crops, it is the responsibility of that Merchant to find and maintain appropriate areas that causes the least disruption to 'standard isolation' distance crops. Principles considered for this include working with all parties to grow "within type" crops where distances can knowingly be reduced.

## **2.16 Isolation Distance Changes**

There continues to be reviews on suitable changes in isolation as the crop type and genetic purity of specific crops changes over time. These changes are subject to annual SCID working group reviews with subsequent changes recommended to be adopted by the wider industry.

## **2.17 Chard and Red Beet Isolation Zones**

Agreed to by the wider industry in the early 2000's, a Red Beet Exclusive Isolation Zone has been established in Mid Canterbury between the Rakaia and Rangitata Rivers with only Red Beet pollinator crops be grown. This recognized region ensures genetic purity from Chard pollinators and the high possibility of cross pollination between the species.

Other regions require cooperation between companies to ensure isolation with a recognized 3,000 metre minimum distance between Hybrid Red Beet to Red Beet Crops and 8,000 metre minimum distance between Hybrid Red Beet and Chard crops.

## **2.18 Round Red Radish Isolation Zone**

A Round Red Radish Exclusive Isolation Zone has been agreed to and established in Ellesmere from 2023. This Zone was formally adopted at the SCID AGM 2023. This location falls between State Highway 1, the Rakaia River and Dunsandel through to Doyleston along the boundary roads Dunsandel & Brookside Road to Branch Drain Road to Drain Road (appendix 4.5). Within these boundaries Round Red Radish seed productions can be grown to the exclusion of all other Radish (*Raphanus*) productions. This recognized region ensures genetic purity for Round Red Radish productions by reducing the possibility of cross pollination from other radish productions.

Within this region, a minimum isolation distance of 2,000 metres between Hybrid Round Red Radish productions is to be observed. Out of this zone, a minimum isolation distance of 3,000 metres is to be observed. Distances beyond this are to be worked out in good faith between all parties.

## **2.19 New Species**

New species can be included in the current crossing tables but must be submitted to the SCID Working Group for review before being forwarded to the administrator. This is undertaken by use of the Species Isolation request form (Appendix 4.2). Advice from the wider industry will be sought for isolation requirements.

## **2.20 Raphnobrassica Isolation**

A peer review was completed in 2023/24 to determine the possibility of outcrossing between Raphnobrassica and Round Red Radish. It was concluded that Raphnobrassica could not physically cross pollinate with Radish Species.

However, due to the physical purity of seed lines, a minimum 1,000 metre isolation has been recommended with other Radish species.

Raphnobrassica seed productions are also excluded from the Round Red Radish Exclusive Isolation Zone in Ellesmere.

### **2.21 Hybrid Rape**

Scientific evidence has pointed to the high possibility of cross pollination between *B.rapa* (campestris) and *B. napus* (rapes). Appendix 4.4 displays the crossing potential of these species. As a result, a minimum of 1700 metres for Hybrid Rape has been set. Autumn to previous Spring clashes has been set to ensure isolation for future Campestris species plantings. Normal isolation rules apply.

### **2.22 Beehive Movements**

Although not directly linked to the SCID program at present, some discussion continues as to how to address the issue of hive locations both directly and indirectly involved with vegetable seed pollination.

Recommended practice for moving beehives into productions involves a stand-down period in an area known to be isolated from other vegetable seed productions of 24 hours. This is to ensure that no foreign pollen remains variable in the hive before entering another field.

The recognition of permanent beehive yards or other non-cross-pollinating crops located between productions is also a possible source of outcross by halving the potential distance of isolation required between crops due to bees foraging between the two sites. At this stage, no control management strategy is implemented. Knowing your area is best practice.

### **2.23 Future Issues**

Issues that will continue to need addressing by the wider industry include an increase in the level of volunteers found across farms and within fields as the history of vegetable seed production continues.

As of now, the SCID program can recognize historical clashes but currently it is not an active function.

Forage and market garden volunteers and farm safe seed are also a major concern for cross pollination and are not recognized by the SCID system. On-going discussion and a deliberate campaign to highlight these issues continues.

The introduction of regenerative farming systems with a wide range of species is also of concern to the vegetable seed sector with the high possibility of cross pollination from a range of undisclosed locations. More campaigning to the wider community and discussions with retailers remains a priority.

### 3.0 Ownership and Liability

#### 3.1 Ownership

This scheme has been vested to the New Zealand Seeds Authority Inc (NZSA). The NZSA is made up of representatives from a number of organisations within the New Zealand Seed Industry. These include Breeders, Merchants, Seed Processors, Federated Farmers, Growers, Crop and Food, Grasslanz, MPI, and AsureQuality.

AsureQuality Limited are contracted as administrators of the New Zealand MPI Seed Varietal Certification Scheme, and the Seed Crop Isolation Distance Mapping Scheme.

#### 3.2 Operator Costs

The table below lists the user costs for the administration and hosting of the system.

| DESCRIPTION                        |         |
|------------------------------------|---------|
| No annual fee applies              |         |
| Crop Entry is on a per entry basis |         |
| All crop entries                   | \$30.00 |

Fees collected for SCID will be apportioned in the following way:

1. \$10 AsureQuality – Service Fee
2. \$10 AsureQuality – Future development fee (held in NZSA bank account under SCID Development Fund)
3. \$10.00 ongoing maintenance of SCID

Commercial crops entered into the SCID system (to assist with enhancing the integrity of high value and certified crops will be charged a fee of \$10.00 per entry.

**Note: All prices exclude GST**

### **3.3 Other Costs**

AsureQuality are the owners of AgriBase. Any upgrades or updates to AgriBase are the responsibility of AsureQuality and will not result in costs to SCID users.

### **3.4 Annual General Meeting**

An Annual General Meeting of SCID users will be held each year and convened by the SCID Working Group. Users will be given formal notice of the AGM date, time and location one month prior to the meeting date. The purpose of the AGM is to allow open discussion and queries or concerns to be raised.

### **3.5 System Enhancements**

System enhancements or additional features are to be reviewed by the SCID Working Group annually. Upon their recommendation, recommended changes will need be discussed by all users at the AGM or any other time by arrangement through the SCID Working Group.

### **3.6 System Administrator**

The current system administrator is the AsureQuality Limited Seed Certification Bureau. AsureQuality is a State-Owned Enterprise (SOE) and operates as an Independent Verification Agency (IVA), and Biosecurity Organisation.

### **3.7 Contact Details**

#### **Seed Certification Bureau**

AsureQuality Limited  
PO Box 609  
Palmerston North 4440  
New Zealand

For grower list additions, mapping and general enquires please contact:

#### **Seed Certification Administrator**

Phone: 06 351 7962  
Email: [seedcert@asurequality.com](mailto:seedcert@asurequality.com)

### **3.8 Liability Statement**

The New Zealand Seed Crop Isolation Distance Mapping Scheme database (SCID Database) has been established by the Seed Industry and stewardship has been granted to the New Zealand Seeds Authority Inc (NZSA) and is administered byASUREQuality Limited.

To the fullest extent permitted by law, NZSA and ASUREQuality exclude:

- a) all warranties and representations (whether express, implied, statutory or otherwise) in relation to the information contained on the SCID Database, including its accuracy, reliability and suitability; and
- b) liability of any kind suffered by a user of the SCID Database that arises directly or indirectly from the use of the SCID Database, whether such liability arises in contract, tort (including negligence) or otherwise and for any loss or damage however caused (including direct, indirect, consequential, special loss, damage, loss of profits, loss of data, loss of savings, and/or loss of opportunity).

By viewing and using the SCID Database you are deemed to agree to the exclusion of NZSA and ASUREQuality's liability without qualification. If you do not agree to be bound by the exclusion of liability, you must stop accessing and using the SCID Database immediately.

## 4.0 Appendices

### 4.1 Registration Form

Issue Date: 17/01/2020



### SCID Registration Form

Type:      Merchant ☐      Grower ☐      Grower and Web Access ☐

Merchant/Grower Name \_\_\_\_\_

Contact Person \_\_\_\_\_

Contact Number \_\_\_\_\_

Contact Email \_\_\_\_\_

Physical Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Proposed Login \_\_\_\_\_

Proposed Password \_\_\_\_\_

If merchant, please include your grower list with registration (if applicable).

1. Signing of this registration form gives your agreement to abide by the requirements outlined in the SCID Regulations.
2. I agree to allow my Merchant contact details and address to be sent to other registered Merchants to allow for contact to discuss isolation conflict issues.
3. I agree to notify the System Administrator when there is a change of the merchant contact person.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## 4.2 Species / Isolation Request Form

Issue Date: 17/01/2020



### SCID Species Isolation Request Form

Applicant ☐ Merchant ☐ Grower

Contact Person \_\_\_\_\_

Contact Number \_\_\_\_\_

Contact Email \_\_\_\_\_

Physical Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Species Latin name \_\_\_\_\_

Species common name \_\_\_\_\_

Isolation distance

☐ New

☐ Change

Required Distance \_\_\_\_\_

*(Please attach supporting data)*

**Cross Pollination Species** *(not required for existing species change of isolation distance)*

| Latin Name | Common Name |
|------------|-------------|
|            |             |
|            |             |
|            |             |
|            |             |
|            |             |
|            |             |
|            |             |
|            |             |
|            |             |

### 4.3 Species and Isolation Distance Table



| Common Name            | Species Name                             | OP Isolation Distance (m) | Hyb. Isolation Distance (m) | Pollination Method |
|------------------------|------------------------------------------|---------------------------|-----------------------------|--------------------|
| Arugula                | Brassica eruca L.                        | 1,000                     | 2,000                       | Insect Pollinated  |
| Beet                   | Beta vulgaris L.                         | 2,000                     | 8,000 *                     | Wind Pollinated    |
| Basil                  | Ocimum basilicum                         | 1,000                     | 2,000                       | Insect Pollinated  |
| Black Mustard          | Brassica nigra L.                        | 1,000                     | 2,000                       | Insect Pollinated  |
| Borecole               | Brassica oleracea L. var salensia        | 1,000                     | 2,000                       | Insect Pollinated  |
| Broccoli               | Brassica oleracea L. var italica         | 1,000                     | 2,000                       | Insect Pollinated  |
| Brocoletto             | Brassica campestris L. var ruva          | 1,000                     | 2,000                       | Insect Pollinated  |
| Brown Mustard          | Brassica Juncea L. (Brown Mustard)       | 1,000                     | 2,000                       | Insect Pollinated  |
| Brussel Sprouts        | Brassica oleracea L. var germmifera      | 1,000                     | 2,000                       | Insect Pollinated  |
| Bunching Onion         | Allium fistulosum                        | 1,500                     | 2,000                       | Insect Pollinated  |
| Cabbage                | Brassica oleracea L. var capitata        | 1,000                     | 2,000                       | Insect Pollinated  |
| Cannabis               | Cannabis Sativa                          | 10,000                    | 10,000                      | Wind Pollinated    |
| Canola                 | Brassica napus L. var oleifera           | 1,000                     | 1,700                       | Insect Pollinated  |
| Carrot                 | Daucus carota                            | 1,000                     | 2,000                       | Insect Pollinated  |
| Cauliflower            | Brassica oleracea L. var botrytis        | 1,000                     | 2,000                       | Insect Pollinated  |
| Celery                 | Apium graveolens                         | 1,000                     | 2,000                       | Insect Pollinated  |
| Chicory                | Cichorium intybus                        | 1,000                     | 2,000                       | Insect Pollinated  |
| Chinese Cabbage        | Brassica campestris L. var pekinensis    | 1,000                     | 2,000                       | Insect Pollinated  |
| Chinese Kale           | Brassica oleracea L. var alboglabra      | 1,000                     | 2,000                       | Insect Pollinated  |
| Chinese Radish         | Raphanus sativus L. var raphanistroides  | 1,000                     | 2,000                       | Insect Pollinated  |
| Choy Sum               | Brassica campestris L. var parachinensis | 1,000                     | 2,000                       | Insect Pollinated  |
| Chrysanthemum          | Chrysanthemum coronarium                 | 1,000                     | 2,000                       | Insect Pollinated  |
| Collards               | Brassica oleracea L. var sabellica       | 1,000                     | 2,000                       | Insect Pollinated  |
| Cultivated Rocket      | Brassica eruca                           | 1000                      | 2000                        | Insect Pollinated  |
| Daikon/Japanese Radish | Raphanus sativus L. var acanthiformis    | 1,000                     | 2,500                       | Insect Pollinated  |
| Dill                   | Anethum graveolens                       | 1,000                     | 2,000                       | Insect Pollinated  |

| Common Name                 | Species Name                           | OP Isolation Distance (m) | Hyb. Isolation Distance (m) | Pollination Method |
|-----------------------------|----------------------------------------|---------------------------|-----------------------------|--------------------|
| Ethiopian Cabbage           | Brassica carinata                      | 700                       | 2000                        | Insect Pollinated  |
| Ethiopian Mustard           | Brassica carinata                      | 1,000                     | 2,000                       | Insect Pollinated  |
| Fodder Radish               | Raphanus sativus L. var. oleiformis    | 400                       | 1000                        | Insect Pollinated  |
| Forage Rape                 | Brassica napus L. var oleifera         | 1,000                     | 1,700                       | Insect Pollinated  |
| French Breakfast Radish     | Raphanus sativus L.                    | 2,000                     | 3,000                       | Insect Pollinated  |
| Hakuran                     | Brassica napus L.                      | 1,000                     | 2,000                       | Insect Pollinated  |
| Hemp                        | Cannibis sativa                        | 10,000                    | 10,000                      | Wind Pollinated    |
| Kale                        | Brassica oleracea L.                   | 1,000                     | 2,000                       | Insect Pollinated  |
| Kohl Rabi                   | Brassica oleracea L. var gongylodes    | 1,000                     | 2,000                       | Insect Pollinated  |
| Komatsuna                   | Brassica campestris L. var pervirides  | 1,000                     | 2,000                       | Insect Pollinated  |
| Mizuna/Mibuna               | Brassica campestris L. var nipposinica | 1,000                     | 2,000                       | Insect Pollinated  |
| Oilseed Rape (OSR)          | Brassica napus L. var oleifera         | 1,000                     | 1,700                       | Insect Pollinated  |
| Oilseed Turnip/Toria        | Brassica campestris L. var oleifera    | 1,000                     | 2,000                       | Insect Pollinated  |
| Onion                       | Allium cepa                            | 2,000                     | 3,000                       | Insect Pollinated  |
| Pak Choi                    | Brassica campestris L. var chinensis   | 1,000                     | 2,000                       | Insect Pollinated  |
| Parsley                     | Petroselinum crispum                   | 1,000                     | 2,000                       | Insect Pollinated  |
| Parsnip                     | Pastinaca sativa                       | 1,000                     | 2,000                       | Insect Pollinated  |
| PLK Onion                   | Allium cepa                            | 1,000                     | 3,000                       | Insect Pollinated  |
| Portuguese Cabbage          | Brassica oleracea L. var costata       | 1,000                     | 2,000                       | Insect Pollinated  |
| Radish                      | Raphanus sativus                       | 1,000                     | 2,500                       | Insect Pollinated  |
| Rape                        | Brassica napus L.                      | 400                       | 1700                        | Insect Pollinated  |
| Raphanobrassica             | Brassicoraphanus                       | 1,000                     | 1,000                       | Insect Pollinated  |
| Red Onion                   | Allium cepa                            | 2,000                     | 3,000                       | Insect Pollinated  |
| Round Red Radish            | Raphanus sativus L.                    | 1,000                     | 3,000                       | Insect Pollinated  |
| Savoy Cabbage               | Brassica oleracea L. var sabauda       | 1,000                     | 2,000                       | Insect Pollinated  |
| Spanish Radish/Black Radish | Raphanus sativus L. var nigra          | 1,000                     | 2,500                       | Insect Pollinated  |
| Spinach                     | Spinacea oleracea                      | 2,000                     | 4,000                       | Wind Pollinated    |
| Sprouting Radish            | Raphanus sativus                       | 1,000                     | 2,500                       | Insect Pollinated  |

| Common Name       | Species Name                            | OP Isolation Distance (m) | Hyb. Isolation Distance (m) | Pollination Method |
|-------------------|-----------------------------------------|---------------------------|-----------------------------|--------------------|
| Swede             | Brassica napus L. var. napobrassica     | 400                       | 2000                        | Insect Pollinated  |
| Swede Rape        | Brassica napus L. var. napobrassica     | 1,000                     | 2,000                       | Insect Pollinated  |
| Swiss Chard       | Beta vulgaris L. var cicla              | 2,000                     | 8,000 *                     | Wind Pollinated    |
| Taatsai/Taku Tsai | Brassica campestris L. var narinosa     | 1,000                     | 2,000                       | Insect Pollinated  |
| Turnip            | Brassica rapa L.                        | 400                       | 2000                        | Insect Pollinated  |
| Turnip Rape       | Brassica rapa L. var silvestris         | 1,000                     | 2,000                       | Insect Pollinated  |
| White Mustard     | Sinapis alba                            | 1,000                     | 2,000                       | Insect Pollinated  |
| White Onion       | Allium cepa                             | 2,000                     | 3,000                       | Insect Pollinated  |
| Yellow Sarson     | Brassica campestris L. var trilocularis | 1,000                     | 2,000                       | Insect Pollinated  |

\* The Code of Practice maintains a recognised isolation distance of 8,000 metres between Swiss Chard and Red Beet while acknowledging 3,000 metres between types of hybrid Red Beet to Red Beet or hybrid Swiss Chard to Swiss Chard.

## 4.4 Brassica Species and Crossing Groups



Within each group there is a high degree of cross pollination.

See note at end of each group to assess risks of crosses between groups

### 1a *Brassica rapa* (syn. *B. campestris*) (turnip group)

| Name                                                                      | Subspecies                                  | Use                                                 | Usual sowing time*    |
|---------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------------|-----------------------|
| Pak choi, Chinese Mustard, Bok-choy Celery mustard; Chinese white cabbage | <i>chinensis</i>                            | large petiole and leaf vegetable                    | Spring                |
| Mizuna, Mibuna, Potherd mustard                                           | <i>nipposinica</i> or <i>japonica</i>       | leaf vegetable with very many small leaves          | Spring                |
| Taatsai, Taku tsai                                                        | <i>narinosa</i> or <i>rosularis</i>         | Thick leaf vegetable                                | Spring                |
| Komatsuna, Spinach mustard                                                | <i>perviridis</i>                           | Leaf vegetable                                      | Spring                |
| Chinese cabbage, Petsai, Celery cabbage Hakusai, Nappa, Shantung cabbage  | <i>pekinensis</i> , <i>glabra</i>           | heart forming vegetable                             | Spring                |
| Saishin, Tsai sin, mock pak choi, choy sum                                | <i>parachinensis</i>                        | loose flowering inflorescence vegetable             | Spring                |
| Broccetto, Broccoli raab, turnip broccoli                                 | <i>ruvo</i>                                 | Inflorescence vegetable (Italy)                     | Spring                |
| Oilseed turnip                                                            | <i>oleifera</i>                             | oilseed (mainly from Europe)                        | Autumn and/or Spring  |
| Yu Choy, Green Choy Sum                                                   | <i>oleifera</i>                             | Vegetable, edible young leaves and flowering stalks | Spring                |
| Toria                                                                     | <i>toria</i>                                | oilseed (India)                                     | Spring                |
| Brown sarson                                                              | <i>dichotoma</i>                            | oilseed (India)                                     | Spring                |
| Yellow sarson                                                             | <i>trilocularis</i> or <i>sarson</i>        | oilseed (India)                                     | Spring                |
| Seven top turnip                                                          | <i>septicaeps</i>                           | vegetable                                           | spring                |
| Bulb turnips (some are tetraploid), Rapini                                | <i>rapa</i> or <i>rapifera</i>              | Bulb or leaf fodder/vegetable                       | Autumn, (some spring) |
| Fodder turnip-rape                                                        | crosses of <i>rapa</i> and <i>chinensis</i> | Leaf fodder                                         | Autumn                |
| Purple stem mustard                                                       | <i>purpuraria</i>                           | Red multistem vegetable                             | spring                |
| Wild turnip                                                               | <i>utilis</i> , <i>sylvestris</i>           | Common weed                                         | Autumn or Spring      |

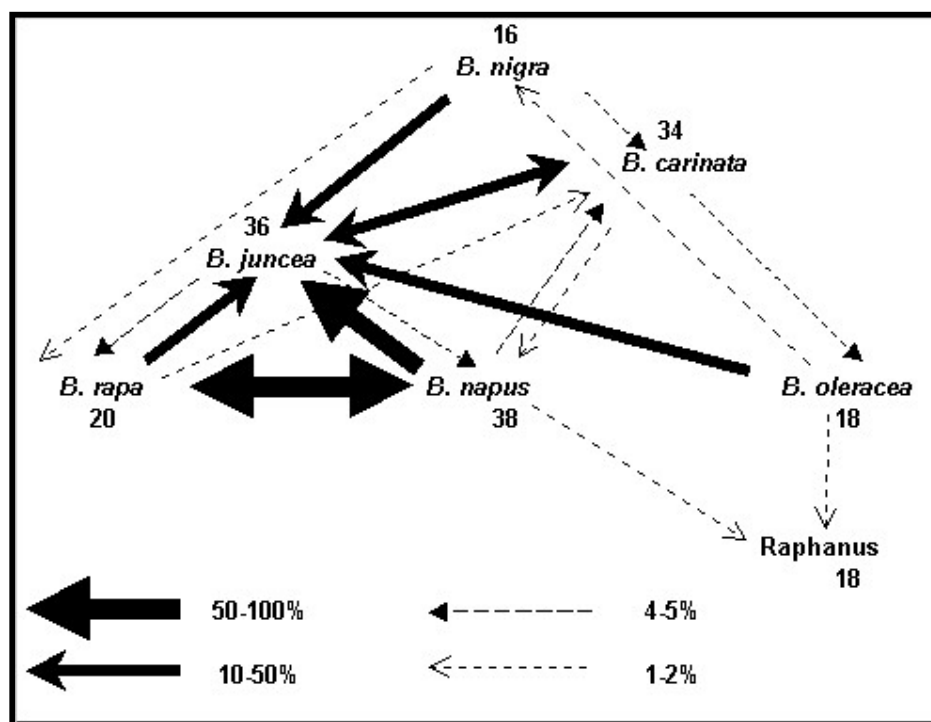
This group (1a) crosses with *Brassica napus* (1b), *Brassica juncea* (3)

### 1b *Brassica napus* (rape & swede group)

| Name                                             | Subspecies             | Use                       | Usual sowing time |
|--------------------------------------------------|------------------------|---------------------------|-------------------|
| Swede, Rutabaga, Swedish turnip                  | <i>napobrassica</i>    | Root fodder and vegetable | Autumn            |
| Fodder rape                                      | <i>biennis</i>         | leaf fodder               | Autumn            |
| Hungry gap kale, Siberian Kale, Ragged Jack kale | <i>pabularia</i>       | leaf fodder               | Autumn            |
| Hakuran *                                        | <i>capitata?</i>       | Heart forming vegetable   | Spring            |
| Senposai **                                      | ?                      | Leaf vegetable            | Spring            |
| Canola, Oilseed rape, Colza, Bird rape           | <i>oleifera, annua</i> | oilseed                   | Spring or autumn  |
| Weed rape                                        | <i>oleifera</i>        | Rare weed in NZ           | spring            |

This group (1b) crosses with *Brassica rapa* = *campestris* (1a) and *Brassica juncea* (3)

The relationship between the Brassica species, known as the “Triangle of U”



Author: Japanese Korean Professor Nagaharu U

Percentages are seed set after hand crossing between Brassica and Radish species  
The diagram above suggests a very high 50-100% chance of a successful cross between *B. rapa* (*campestris*) and *B. napus* and the risk is the same regardless of the pollen source.

## 2 *Brassica oleracea* (kale & cabbage group)

| Name                                                                                                                               | Botanical variety <sup>2</sup>          | Use                                               | Usual sowing time |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------|-------------------|
| Kohl rabi                                                                                                                          | <i>gongylodes, caulorapa</i>            | Swollen stem vegetable                            | Autumn            |
| Cabbage                                                                                                                            | <i>capitata</i>                         | Heart forming vegetable                           | Autumn            |
| Savoy cabbage                                                                                                                      | <i>sabauda</i>                          | Thick crinkled leaf heart forming vegetable       | Autumn            |
| Broccoli, Calabrese, Asparagus broccoli, Sprouting broccoli, Heading broccoli, Winter broccoli, Cape broccoli, Purple cauliflower; | <i>italica</i>                          | Flowering bud vegetable (Sanders and Crisp, 1976) | Spring/Autumn     |
| Broccoflower                                                                                                                       | <i>italica cross botrytis</i>           | Cauliflower crossed with broccoli                 | Spring/Autumn     |
| Cauliflower, Romanesco broccoli                                                                                                    | <i>botrytis</i>                         | Flowering bud vegetable                           | Spring/Autumn     |
| Broccolini <sup>1</sup> , Kalebrini                                                                                                | <i>alboglabra cross italica</i>         | Flowering bud vegetable                           | Spring            |
| Borecole                                                                                                                           | <i>selensia</i>                         | Flowering bud vegetable                           | Autumn            |
| Brussel Sprouts                                                                                                                    | <i>gemmifera</i>                        | Hearting buds on stem                             | Autumn            |
| Kales <sup>2</sup>                                                                                                                 | <i>acephala</i>                         | Fodder crop                                       | Autumn            |
| Jersey kale <sup>2</sup>                                                                                                           | <i>palmifolia</i>                       | Fodder crop                                       | Autumn            |
| Marrow stem kale <sup>2</sup>                                                                                                      | <i>medullosa</i>                        | Fodder crop                                       | Autumn            |
| Thousand head kale <sup>2</sup>                                                                                                    | <i>millecapitata, ramosa, fruticosa</i> | Fodder crop                                       | Autumn            |
| Siberian kale <sup>2</sup> , Perpetual kale <sup>4</sup>                                                                           | <i>ramosa, fruticosa</i>                | Fodder crop                                       | Autumn            |
| Curly kale <sup>2</sup>                                                                                                            | <i>fimbriata, sabellica</i>             | Vegetable                                         | Autumn            |
| Portuguese cabbage or kale <sup>2</sup>                                                                                            | <i>costata, tronchuda</i>               | Leaf vegetable                                    | Autumn            |
| Dwarf kale, Ornamental kale <sup>2</sup>                                                                                           | <i>nanofimbriata, fimbriata</i>         | Ornamental                                        | Autumn            |
| Collard <sup>2</sup>                                                                                                               | <i>sabellica, viridis</i>               | Non hearting cabbage                              | Autumn            |
| Kailan <sup>3</sup> , Chinese white flowered kale, Chinese broccoli                                                                | <i>alboglabra</i>                       | vegetable                                         | Spring            |
| Wild cabbage, Sea cabbages                                                                                                         | <i>sylvestris</i>                       | Weed, usually by the seaside                      | Autumn            |

This group (2) can cross at low level with *Brassica juncea* (3) & *Brassica carinata* (5)

### 3 *Brassica juncea* (Brown or Indian Mustard, some Chinese Mustard)

| Name                                                 | Subspecies*                                                        | Use                                                                                            |
|------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Broad leaf mustard                                   | <i>foliosa</i>                                                     | Leaf vegetable with large entire succulent leaves                                              |
| Cabbage or head mustard                              | <i>capitata</i> ,<br><i>bulbifolia</i> ,<br><i>rugosa</i>          | Vegetable with succulent leaves forming a loose heart                                          |
| Potherb or multishoot mustard<br>“Green in the Snow” | <i>multiceps</i>                                                   | Leaf vegetable with very high leaf number                                                      |
| Curly-leaf mustard, Cut-leaf Mustard                 | <i>crispifolia</i> ,<br><i>multisecta</i> ,<br><i>integrifolia</i> | Leaf vegetable with deeply dissected carrot-like leaves                                        |
| Root mustard, turnip-rooted Mustard                  | <i>napiformis</i> ,<br><i>megarrhiza</i>                           | Root vegetable (akin to turnips)                                                               |
| Horned mustard, large petiole Mustard                | <i>lapitata</i> ,<br><i>strumata</i>                               | Leaf vegetable with succulent petioles and midribs, horned protuberance on the base of petiole |
| Big stem mustard                                     | <i>tsa-tsai</i> , <i>tumida</i> ,<br><i>linearifolia</i>           | Stem vegetable with succulent tumorous growths on a swollen stem                               |
| Broccoli mustard                                     | <i>faciliflora</i> ,<br><i>scaposus</i>                            | Flowering shoot vegetable                                                                      |
| Brussel sprout type                                  | <i>gemmifera</i>                                                   | Newly developed vegetable akin to Brussel sprouts (Chen, 1982)                                 |
| Oilseed mustard,<br>brown mustard,<br>Spice mustard  | <i>oleifera</i> , <i>juncea</i> ,<br><i>spicea</i>                 | Oilseed crop,<br>Seed used as a condiment                                                      |

This group crosses at low levels with *Brassica rapa* = *campestris*(1a), *Brassica napus* (1b), *Brassica oleracea* (2), *Brassica nigra* (4), *Brassica carinata* (5)

### 4 *Brassica nigra* (Black Mustard)

Can cross at low levels with *Brassica napus* (1b) & *Brassica juncea* (3).

### 5 *Brassica carinata* (Ethiopian mustard, Abyssinian cabbage)

This can cross with *Brassica juncea* (3).

### 6 *Raphanus sativus* (Radish)

Generally considered a separate crossing group.

### 7 *Sinapis alba* (White mustard)

Considered a separate crossing group.

**8 *Eruca sativa* (Arrugula, Cultivated Rocket)**

Considered a separate crossing group.

**9 *Sinapis arvensis* (Charlock)**

Considered a separate crossing group.

#### 4.5 Round Red Radish Isolation Exclusion Zone Map

