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## ***Principles of shelter***

### **Growers must keep sprays on their orchard**

One of the biggest concerns in the community about the kiwifruit industry is agrichemical spray drift, and the harm to human health and the environment. If we don't listen and respond to the concerns of our communities then we put our social licence to operate, and our livelihood, at risk.

The industry has good systems and practices in place to minimise spray drift, but some orchards need more work.

### **Shelter is strongly recommended**

This document provides the principles of orchard shelter for minimising visibility of spraying. Shelter is not a requirement, but it is strongly recommended and good practice. The principles are:

1. Orchards that have boundaries (where vines are sprayed within 30m of the boundary) where members of the public might reasonably be adjacent to, should have shelter.  
I.e. a boundary adjacent to a parcel or title of land that has a different owner or kaitiaki.
2. Minimum height 5m (trimmed if natural). Shelter should be at least 2m taller than the maximum visible spray plume projection height.
3. Talk to your neighbours and the relevant authority.
4. Be compliant with all other requirements eg setbacks from boundaries and transmission lines, height, cloth colour, hazardous substance controls etc.

### **Shelter can reduce spray drift by up to 80%**

Spray drift should not leave your boundary. You must use other methods such as no-spray zones to keep sprays on the orchard if you don't have shelter. Always check the controls on the substance.

Effective shelter should be a minimum of 5m high; it should be at least 2m taller than the maximum visible spray plume projection height. If natural shelter, continuous evergreen trees. If artificial shelter, the following is recommended:

- single layer cloth: 80% closure, 20% porosity
- double layer cloth: two layers of 50% porosity. Layers should be separated by minimum 100mm
- single and double layer cloth: double layer to a height of minimum 3m 50% + 80% porosity or 50% + 50% porosity. A single layer of minimum 50% is then used for the remaining 2m.

The technical specifications above are proven to reduce drift by up to 80%, an important requirement when spraying hydrogen cyanamide. A reduction of drift to 80% is not achievable when spray is actively being pushed towards it i.e. immediately adjacent to the shelter with no headland.

## **Shelter that's right for your orchard**

No two orchards are the same: from the shape of the land titles, land surface and features, access to water, sun and wind exposure, proximity to power lines, neighbours or public access/amenities etc. For that reason, the principles are general. You'll need to apply judgement and do what's right for your orchard, community and continue to work within local rules.

We encourage you to seek independent advice about appropriate shelter for your orchard.

### **Already have some shelter?**

If you already have shelter that is not aligned with the above principles, consider how you might be able to strengthen it. For example, if you have deciduous trees for natural shelter, don't need to remove them. You may be able to plant some additional evergreens or artificial shelter with the deciduous trees and continue safe spray practices.

Or, if you have some vines near a corner of property where there is an intersection at public roads, it might be in the interests of public safety to have a hedge or fence under 5m instead.

If you already have good shelter and your neighbours are comfortable, you don't need to do anything other than any risk assessments and necessary maintenance.

### **Compliance**

An annual risk assessment should be undertaken on shelter to ensure that shelter is appropriately maintained, and spray drift is avoided. This should be noted in your spray plan.

Complaints about spray drift will be investigated. Enforcement action will be taken if necessary.

### **FAQ**

#### **Will I need to cut back some vines if they are too close/on the boundary to make way for shelter?**

A: You may need to, yes. Spray drift should not be leaving the boundary of your orchard.

Spray drift modelling shows it would be near impossible even when up-wind, to actively project spray towards a vine planted to an orchard boundary and not get drift outside of the property boundary. You may need to cut back or remove some vines to make way for shelter or to at least ensure a great enough headland to allow and drift particles to fall prior to the orchard boundary. You also must be compliant with relevant regional rules etc at all times.

#### **How does this fit in with my property spray plan?**

A: Your spray plan must ensure any areas which are at risk to drift, even with shelter or where shelter is not possible, are appropriately and safely managed.

### **Tools and resources**

[Zespri Plants with purpose native and shelterbelt planting](#)

[Zespri Canopy | Spraying](#)

[Spraying and GROWSAFE® resources for the kiwifruit industry](#)

[NZKGI Spray Safety Booklet](#)

[NZKGI Artificial Crop Protection Structure and Shelter Belt Guidance](#)

[Transpower - Kiwifruit Growers Guide](#)

[Powerco - Building near lines](#)