

## CAN WE PREVENT FROST POCKETS?

*Rob Senior*

New concepts in gardening are rare, but the points made by Rodger Elliot on preventing frost damage, posted on the website of the Australian Plants Society in Victoria, could be enlightening. Elliot is the co-author, with David Jones, of the fabulous *Encyclopaedia of Australian Plants Suitable For Cultivation*. Writing the nine volumes (plus supplements) was a thirty-year project.

Elliot begins by explaining how frost damages plant tissue:

**Frost damage occurs when plant tissue is frozen.** Freezing causes the plant's cells to shrink, forcing water into spaces between the cells, where it can freeze and form ice crystals. As temperatures rise and thawing begins the water is absorbed back into the cells by osmosis. If this occurs quickly there is no damage to the tissue, but if thawing is slow, the cells are deprived of water and become dehydrated, resulting in 'frost burn'.

In suggesting that frost damage is preventable, Elliot proposes the usual ideas and measures:

- Identify frost pockets
- Encourage microclimates where possible
- Utilise the space underneath well-developed tree canopies
- Arrange plants so that the flow of cold air is not impeded and allowed to build up

But there are some interesting additions for those in frost-prone areas:

- **Avoid recently cultivated soil near plants.** Recently-cultivated soil contributes to frost damage as there are many nooks, crannies, and depressions where cold air can be trapped. This aspect is understood by the owners of orchards and vineyards who, in late winter and early spring, roll the soil flat in close proximity to their trees and vines.
- **Mulch with gravel or screenings.** Avoid organic mulches because they have plenty of spaces to act as 'air dams' where frost can occur.
- **No winter / spring pruning.** Do not prune in winter or spring until frosts are thought to be finished for the season. As sap flow increases, and young leaves begin to burst forth, this is a perfect time for frost damage to occur.
- **Overhead protection.** Provide overhead protection, using hessian, to help retain radiant heat near the plants. Do not cover plants with plastic bags, as they do not always exclude frost and can exacerbate damage if hit by strong sunlight early in the day after a frosty night.
- **Spray with seaweed products.** Spraying applications of seaweed products helps to strengthen cell walls, minimising the chance of frost damage and also helping the plant cope with excessive heat in summer.

Do such recommendations apply to us here in the UK? Or, conversely, is organic mulching or surface hoeing helpful in providing an insulating layer for rather wetter, colder British soils? Perhaps we have lessons to learn from the other side of the globe.

Go to <https://apsvic.org.au/protect-your-plants-from-frost-damage/> to read the entire article or, to learn more about Australian plants, join the UK Australasian Plant Society: <http://www.anzplantsoc.org.uk>

∞ *First published in the Half-Hardy Group Newsletter, Winter 2017* ∞