

e - articles



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July Diary 2012



July is considered Mid-Winter in New Zealand and often the coldest, wettest month of the year. Watch weather forecasts and local conditions carefully and be prepared to protect tender plants from frost, freezing, prolonged wet and snowy weather, hail, wind damage, flooding, earthquakes, tsunamis, volcanic eruptions, plagues, pestilence, civil unrest and the government.

Winning over Winter:

Frost, freezing, prolonged wet/snowy weather, windy spells and the general malaise of seemingly endless wintry conditions are the things that make winter gardening most problematic. Short of moving to a sunny (sub) tropical location there is no magic wand to wave winter away. But there are things the gardener can do to make the time go faster with less damage and really win out over winter.

Frost and Freezing:

Frost and freezing damage is often the worst problem that most gardeners experience. When temperatures drop below freezing for more than a couple of hours, plant tissues begin to freeze and damage can result.

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Water inside plant cells, tissues or roots expands as it cools which can rupture cell walls when it freezes. Sharp ice crystals formed upon freezing can puncture cell walls causing them to collapse once temperatures warm above freezing.

At Its Worst:

The worst damage often occurs when freezing occurs after prolonged wet weather. Plant tissues are already engorged with water that then expands and freezes; literally pulling the plant tissues apart, resulting in a 'black' frost where, once thawed, plant tissues are so bruised that they collapse into darkened mush.

Frost Heaving:

This problem occurs in climates experiencing severe cold: in New Zealand usually in South Island and High Country/Alpine districts. Wherever wet exposed ground repeatedly freezes and thaws, water can become trapped within or pool underneath a plants' root system.

As this water freezes and expands it can literally lift (heave) the plant completely out of the ground!

At greatest risk are newly planted specimens or anything with a dense shallow root ball, like clumps of perennials or hardy shrubbery planted in poorly draining soils.

Hardy Gardeners who venture outdoors early on a sub-freezing morning may find their plants perched high atop shafts of ice with root balls fully exposed. Then as the ice thaws the plants often fall to one side of the holes they came from; that is where more 'tender' Gardeners later find them lying on the ground as if someone had pulled them out!

The miracle is that because these plants are dormant, provided they haven't dried out too much, simply put them back into the hole where they can from; press them back into place and most likely they will survive!

Mulches & Coverings are the Best Answers:

Use evergreen boughs, straw, spoilt hay, collections of brush, twigs, and prunings, course leaves that don't mat down (like oak) to avoid damage from severe frost, freezing or frost heaving. Build up the mulch around all sides of susceptible plants and/or even lightly over their tops; which insulates them like a natural protective blanket, keeping the soil temperatures more constant.

In Cold Climates:

Add protective winter mulch after the first hard freeze. Where almost all plant growth is dormant in cold climates, adding protective winter mulch after the first hard freeze keeps the plants at a constant soil temperature just *for more information and images visit www.daleharvey.com*

below freezing which maintains plant dormancy and overcomes frost heaving.

This natural protection can remain in place all winter. Snow is also a great protectant and can be used to efficiently insulate plants against icy drying chill winds and severely cold night temperatures.

In Temperate and Cool Coastal Climates:

Mulch all frost-tender plantings before they can freeze. Dormant plants exposed to severe cold can be mulched as per Cold Climates. But most cold-hardy plants will need no extra protection here in cool temperate and milder coastal gardens where variable weather conditions allow for some minimal winter growth to continue.

Whatever is mulch-protected should be generous and deeply surround each plant. But take care that it does not smother or pack down causing rot or fungus of winter growth. During brief mild periods,

it is sometimes worth going to the trouble of lifting or pulling back the mulch just enough to allow warming sunshine to penetrate.

Then whenever frost is expected, re-cover the tops of tender plants with evergreen boughs, sheets, blankets, hessian bags, cardboard, newspaper, frost cloth, etc.

Frost cloth, old bed sheets, hessian bags or rolls of cloth and light blankets are but a few of many things that make excellent frost protection when laid over susceptible larger garden beds and borders. Temporary

protective framing of some sort is especially effective when draped over with frost cloth materials.

Where severe freezing occurs be sure the frost protective cloths generously cover all sides right to the ground and are just a little elevated above the plants they are meant to protect; creating a warmer dead-air space within, as the cloth itself will most likely freeze and can transfer the cold through to the plants it is meant to protect.

Avoid plastic sheeting resting on plant surfaces as it not only sweats but transfers cold through to the plants tops it rests against. Most 'old-fashioned' types of frost protection must be removed and perhaps repositioned daily.

Commercial frost cloth and micro-weave fabrics allow enough air and sun light to penetrate through them so they can be left in place throughout the coldest weather without damaging most plants.

Just watch carefully that there is still sufficient air circulation and light to avoid rot or fungal infections. Gardeners in frost-prone regions often create temporary tunnel houses or similar protective shelters that remain in place until danger of frost has passed.

Mild and Subtropical Climates:

A combination of mulching and frost cloths will usually cover most problems. In such blessed climates, some years there is no frost at all. But because growth is rampant,

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soft and tender, whenever a frost or freeze does arrive, it can be devastating.

If occasional mild to moderate frosts are the only issue you probably don't have to do anything. What little damage that does occur can be left on the plants as a covering cap over the exposed plants to protect them until danger of frost is past. Then it can be pruned away once all danger of frost has past to allow new spring growth to start.

Washing Frost Away:

Some truly dedicated Gardeners get out at dawn with the garden hose and wash the frost away. Dawn watering only works well on mild frosts where plant tissues have been exposed to freezing temperatures for less than four or five hours but where plant tissue is still pliable and not yet frozen, just covered with frost.

Much of this type of frost damage occurs when sunlight hits the frozen ice crystals resting upon the leaves that have expanded the cell structure within the leaves.

The ice crystals magnify the sunlight in a similar fashion to a magnifying glass, which can burn or destroy the vulnerable cell structure of the leaf. Dawn watering 'warms' the plants and melts the ice before this damage can occur.

There is an art to this. If temperatures are well below freezing and plant tissues have obviously frozen, such watering can raise the temperature too quickly, causing leaf collapse. Or worse, the now-wet-leaf could