

BULB CHILLING

What's the problem?

In warmer areas of New Zealand, tulips and hyacinths may need refrigeration before planting.

You probably need to consider refrigeration if your flowers have unusually short stems or your bulbs occasionally fail to flower altogether.

Why does it occur?

Tulips and hyacinths are native to areas which experience quite cold winters, and they need this cold period for the bulb to complete the development of the flower bud deep inside. Insufficient cold period results in flowers on very short stems or sometimes no flower at all.

Does it affect all types of tulips?

Darwin Hybrid tulips are the most suitable types for warmer areas. If you are in a warmer area and want to grow all the colours available in the Single tulip range, the flamboyant Parrot and Peony types, or the graceful Lily tulips, then you will need to do some chilling.

Are there any alternatives to chilling?

A number of things may help you get good tulip and hyacinth flowers without chilling:

- All tulips should be planted later in autumn when the soil temperatures are cooler, ideally below 12°C. Mid May is an ideal time in warmer areas.
- Plant the tulips 15-20 cm deep, and hyacinths 12-15 cm deep as the soil is cooler at that depth. The bulbs cope very well as long as the soil has been well cultivated below the planting depth so they can easily push their roots out..
- Avoid planting tulips and hyacinths in pots - pots warm up very quickly, even in winter, when the sun is on them. Bulbs really don't like this fluctuation with warm days and cool nights, they much prefer the steady cool conditions in the garden soil.
- Use a mulch to help keep the soil cooler.

How do I go about chilling?

The most important point is that you need to chill, not freeze! Don't put bulbs in the freezer as this is too cold and will kill them. The average fridge is at approximately 4°C and this is an ideal temperature.

Place the bulbs in a breathable container such as a paper bag and start chilling in early April. You should not start too early as the bulbs are not at the right stage of development for chilling until early April. Plant in late May.

Are there any problems to watch out for?

Done correctly, chilling your tulips will result in perfect flowers next spring. However, if it is not done well, keeping bulbs in the fridge can cause as many problems as it solves.

- Using a paper bag or open container is very important so the bulbs can breathe. Plastic bags cause sweating and will cause mould and rot to develop.
- Keep the bulbs to the side of the fridge, not at the back where the cooler plate may ice up and damage them, or where condensation may cause mould to develop.
- Ripening fruit, and to a lesser extent, vegetables, release a gas called ethylene. This gas causes other fruit to ripen in a chain reaction. We make use of this sometimes by getting kiwifruit to ripen more quickly by putting them in a bag with apples or bananas, which are higher ethylene producers. However, ethylene has a down side as well. It



can cause severe damage to the developing flower buds in bulbs, often resulting in complete loss of the flower. Don't keep fruit in the same fridge as bulbs, and include an ethylene absorbing sachet in with the bulbs to prevent ethylene damage

and suppress mould growth.