

DISCOVER SEED DIVERSITY

Discover the variety in seeds -
our critical bridge from the present into the future
in both natural & agricultural systems

Ryegrass & clover seeds may be the most important seed in New Zealand. Our economy relies on pastures that feed dairy cows, sheep, beef cattle, & deer for food products. Recently, plantain & chicory seeds have also become important.

Maize (corn) seed is the most widely cultivated crop in the world. Its use and production is greater than rice & wheat (in 2022, ~1.16 billion tonnes). Sweet corn seed (left seed) is shrivelled due to high sugar levels & reduced food reserves (endosperm).

Carrot seed grown in New Zealand provides 50-60% of the worlds needs.

Pine seeds escape pine cones when they are attached to the parent tree. Cones dry out & open and winged seeds are spread by the wind.

Parsnip seeds take ~ 3 weeks for germination. Apiaceae family members have under-developed embryos that take time to grow.

Castor oil bean seeds committed murder! They contain a very toxic protein, ricin and were likely used to assassinate a Bulgarian dissident, Georgii Markov, in 1978 in London.

Lettuce seeds are sensitive to temperature. They need light and temperatures below about 30oC to germinate.

Sunflowers seeds produce 500-800 seeds from a single inflorescence.

Horse chestnut seeds are not safe to eat! Unlike sweet chestnuts, they contain the toxin aesculin, that causes hemolysis (destruction of red blood cells).

Peanuts are also known as groundnuts. Peanut plants bury their pods during seed development, so they must be dug up for harvest.

Hemp seeds are unique; they contain all 8 essential amino acids & both essential polyunsaturated fatty acids necessary to maintain healthy human life.

Kōwhai seeds often do not germinate because they have hardseededness, a type of dormancy. Unless the seed-coat is scarified (scratched), seed cannot take up water to begin the germination process.

Wheat seeds can survive up to 100 years or more. Though they need to be stored dry, in low moisture conditions and frozen.

Barley seeds are often used for animal feed but are also used for making malt for brewing beer.

Walnut seeds have two very irregularly-shaped cotyledons (embryo part) & a distinctively pointed radicle tip (embryonic root).

Kauri are both pollinated & have their seeds dispersed with the help of the wind. They then grow into the giants of the New Zealand forests.

Carmichaelia seeds are naturally framed by the remains of their pod which can be retained for a few months.

Brazil nuts (seeds) are only collected from the rain forest. This is because flowers can only be pollinated by the female long-tongued orchid bees there. To date, no commercial orchards have succeeded.

Pumpkin seeds store food reserves for energy in two large cotyledons (part of the embryo) during seed development. These food reserves are later used to fuel germination.

A beet 'seed' is actually a dry aggregate fruit and often contains several seeds; it is where we get the term – 'multigerm'.

Avocado seeds are "recalcitrant." This means they cannot be dried without killing the seed. Avocado seeds do not store well. If they lose moisture they die, so need to be sown soon after harvest.

Coffee 'beans' are mainly endosperm (food reserve tissue) & contain 0.8–2.5% caffeine.

Native kohekohe seeds are covered with bright-orange arils that attract birds who facilitate their spread.

Linseed or flax seed has been utilised in a range of ways over the centuries; it was used by the ancient Egyptians for embalming

Coconut seed is a large seed. The endosperm (food supply) is both liquid (coconut 'milk') & solid (coconut 'meat'). An embryo (inset) germinates through 1 of 3 pores (or pits) from the top of the hard brown shell.

Pachystegia, also known as **Marlborough rock daisy seeds**, have a parachute-like structure called a pappus. This is because the seeds are wind-dispersed.

Please note:
Seed images are not to scale

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