# GARDEN WEEDS

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Weeds - those remarkable, successful plants that thrive in the most inconvenient places! Their persistance and survival often seems incredible. Estimations of seed out- put of common weeds show a production that would be desirable in any cultivated plant.

Chickweed (Stellaria media) may produce up to 2,500 seeds per plant, while a good sow thistle (Sonchus sp) plant manages up to 20,000 seeds. This of course is in good growing conditions. Consider the very dry season: the good weed has the answer. Earlier this year I found some fathen (Chenopodium album) growing in extremely dry conditions. Each plant stood about 4 cm high, with two tiny leaves and a small seed head. They looked to all intents and purposes, beaten, but no, in these seedheads were 10 - 12 mature seeds.

"One year's seeding, seven years weeding". Don't believe it! More like 20 years. Shepherds purse (Capsella bursa-pastoris) can produce a mere 3,000 seeds per plant, but if those seeds are buried they can survive for 16 years, while black nightshade (Solanum nigrum) doubles that time. Such long periods of survival are not necessarily needed. Seeds are often dispersed widely by wind, water, or animals. Frequently they arrive in positions suitable for growth and waste no time in establishing themselves and rapidly producing their next crop.

Perennial weeds don't rely entirely on seeds to survive and spread. Dandelion (Taraxacum officinale) roots when broken up, can produce a new plant from each fragment. The same may be said for Californian thistle (Cirsium arvense). Couch (Agropyron repens) and yarrow (Achillea millefolium) produce masses of rhizomes, oxalis (Oxalis spp) many corms, all designed to keep the weed population thriving.

While most plant families contain some weed species, one family, the Compositae, has rather more than most of the others. Members of this family have the potential to produce very large numbers of seeds (e.g. 900,000 per square metre in a "crop" of yarrow), while perennial species may be proliferated by branching rhizomes and sprouting roots.

Composite flowers make a fascinating study. Each inflorescence is really many (often hundreds) of small flowers gathered together in an inflorescence that resembles one large flower. Consider the common dandelion (Taraxacum officinale). It has hundreds of flowers in each inflorescence. Every flower has a pappus (modified calyx), five petals, five stamens and an ovary. Each flower is beautifully arranged for cross pollination (the stigma being held above the anthers). However even the busiest of bees cannot visit every flower, so the stigma arms gradually open wider and roll back until they reach the anthers below. Pollination and survival with or without help! Seed is carried away from its parent on the hairy (pappus) parachute.

A new, but now well established weed in my garden is galinsoga (Galinsoga parviflora). An annual, but its seed production makes sure that it is here to stay. Plants establish rapidly in the spring and grow 70 - 80 cm in height. The inflorescences are small and inconspicuous, each consisting of 5 white (ray florets and about 30 minute yellow (tubular) florets. Each plant bears many inflorescences and of course thousands of seeds!

Common composite weeds found in and near Christchurch include:

Achillea millefolium (yarrow)
Bellis perennis (daisy)
Carduus tenuiflorus (winged thistle)
Cirsium arvense (Californian thistle)
C. vulgare (Scotch thistle)
Conyza spp (fleabane)

Cotula australis (cotula)
*Crepis capillaris (hawksbeard)
*C. taraxacifolia (beaked hawksbeard)
*Hypochaeris radicata (cat's ear)
Galinsoga parviflora (galinsoga)
*Lapsana communis (nipplewort)
Matricaria inodora (scentless chamomile)
M. matricarioides (rayless chamomile)
*Picris echioides (ox tongue)
Senecio vulgaris (groundsel)
*Sonchus asper (prickly sow thistle)
*S. olearacea (sow thistle)
*Taraxacum officinale (dandelion)

(N.B. those plants marked with an asterisk indicate plants that are identified in the key below).

1a. Inflorescence stalk hollow, mid rib of leaf hollow.
Taraxacum officinale (dandelion)

1b. Inflorescence stalk branched, not hollow. Mid rib of leaf not hollow. ..... 2

2a. Inflorescence stalk not bearing leaves.
Hypochaeris radicata (cat's ear)

2b. Inflorescence stalk bearing leaves. ..... 3

3a. Leaves very harsh to touch. Leaf surface covered in swellings bearing stiff hairs.
Picris echioides (ox tongue)

3b. Leaves not harsh to touch. ..... 4

4a. Stems and leaves exuding copious quantities of milky sap when cut.

Sonchus spp
(sowthistle or prickly sowthistle)

(N.B. Sonchus asper and S. oleracea are difficult to tell apart - S. asper is more prickly than S. oleracea.)

4b. Stems and leaves without copious quantities of milky sap. ..... 5

5a. Flower heads small, (less than 1 cm in diameter). Leaves with terminal lobe large and often "arrow" shaped. Lapsana communis
(nipplewort)

5b. Flower heads larger than above, usually more than 1 cm in diameter. Leaves lobed, but lacking prominent terminal lobe. ..... 6

6a. Leaves hairless, or sparingly hairy. Leaves and stems green, without red colouration.

Crepis capillaris
(hawksbeard)

6b. Leaves hairy, particularly round the margins. Leaf veins and stems often containing red colouration. Crepis taraxacifolia
(beaked hawksbeard)

*Galinsoga parviflora*