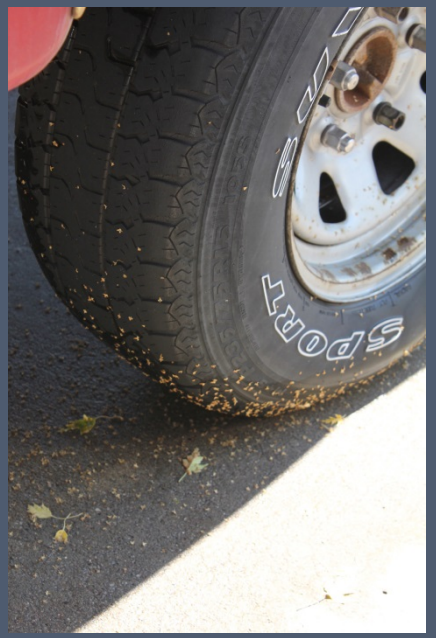
WEEDS OF THE LOS ALAMOS AREA

Teralene Fox

HOW DO WEEDS SPREAD?

- tires of cars
- via boats, planes, soles of shoes
- imported animals and agricultural products
- Introduced ornamentals that escape and become a nuisance
- seed mixes



WHY ARE WEEDS SO SUCCESSFUL?

• Weeds are often exotics or non-natives that don't have any "enemies" and can spread rapidly.

- Weeds have the ability to grow under a wide range of conditions. They are often drought resistant and can grow anywhere, including in cracks in the asphalt, in parched, salty, disturbed or compacted soils and even through concrete.

• Weeds have prolific seed production or can spread via roots and other plant parts. If you cut or fragment the root by pulling or attempting to digout the plant, each piece can remain in the soil can grow into new plants. So, if you pull one, you'll get ten!

• Weeds have the ability to sprout earlier and grow faster than native or desirable plants.

- Many weeds have chemical substances that inhibit growth of other plants (Allelopathy).

After Susan Donaldson, University of Nevada Cooperative Extension

PLANTS THAT SUPPRESS OTHER PLANTS

ALLELOPATHY IN PLANTS

A number of our weedy species suppress the growth of other plants by allelopathy. *Allelopathy* is a phenomenon in which one plant suppresses the growth of another by the release of certain chemicals. These chemicals can affect the growth, germination of seeds, and making the soil toxic for other plants. The chemicals can be in foliage, flower, roots, bark, soil. Most store their protective chemicals in their leaves and when the leaves fall and decompose they make the soils toxic to nearby plants.

A number of trees have allelopathy. This protects their space used by the roots and can inhibit germination of other plant life.

Some examples of species that exhibit allelopathy include Bearberry (*Arctotaphylos uva-ursi*, Sumac (*Rhus* spp.), Elderberry (Sambucus spp., Goldenrod (*Solidago* spp.), Nettle (*Urtica dioica spp. gracilis).*

A sign of allelopathy: Plants that are in large patches with no other plants growing within the patch or adjacent to.

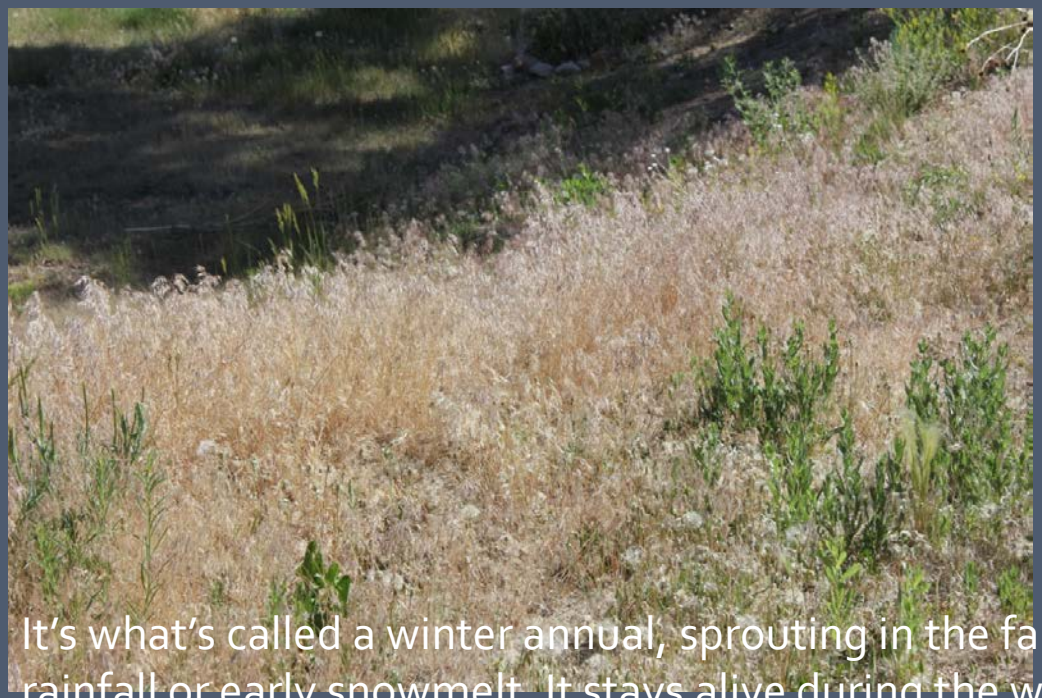
Safflower

Some weeds come from bird seed. Safflower found near the Mitchell Trail

Oxeye daisy

Leucanthemum vulgare

The flower is pretty but just a single plant can produce over 40 flower stems. Each flower produces 200 seeds. Eighty percent of the seeds remain viable for 6 years. In addition, the plant can reproduce vegetatively. Introduced as an ornamental in the 1800s.



Downy Chess or Cheat Grass
Bromus tectorum

Introduced annual grass. This grass spreads by seeds with awns that become attached to clothing and animal fur. It is a severe weed of the west. Produces 300 seeds/plant. Very drought tolerant and survives and expands during drought. Called the "*worst*" range weed.

It's what's called a winter annual, sprouting in the fall or early winter after we get some rainfall or early snowmelt. It stays alive during the winter, lurking under the snow. It will grow and reproduce before other plants have emerged. Pull it out Please!

Smooth brome

Smooth brome was introduced after the Dome fire in the seed mix. It reproduces by seeds, rhizomes, and tillers. In areas burned by fire, it has become a dominate grass and is suspected of inhibiting succession of shrubs, pine seedlings, and native herbaceous cover.

False terragon

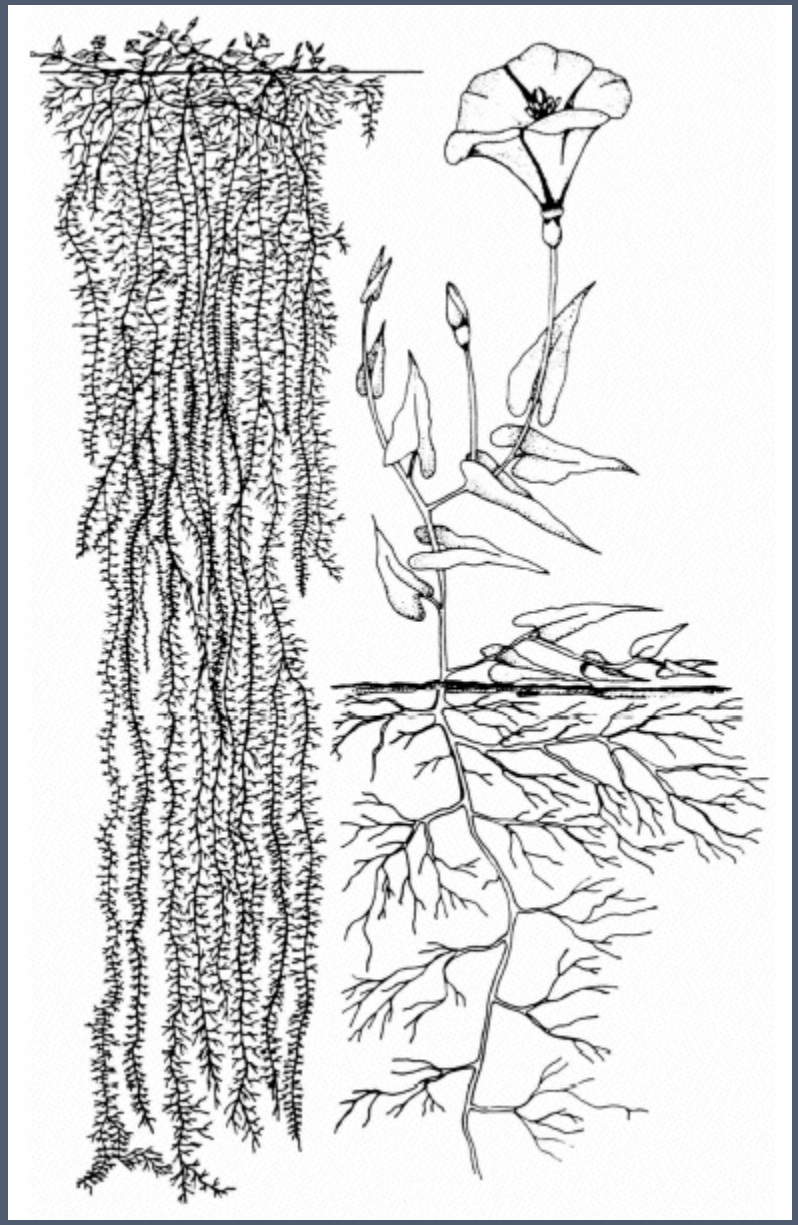
Artemisia dracunculus

A weedy plant that displaces desirable vegetation in areas of disturbance. It has rhizomes and can produce both vegetatively and by seed. Very drought tolerant. Tarragon leaves are cultivated for beverages and used as a cooking herb. Native Americans constructed brooms from tight bundles of stems and utilized the leaves to treat rheumatism and swelling.

Page Composites
Asteraceae

Bindweed
Page in Vines
Convolvulaceae

Class A:



Wonder why this is called
"Our worst weed?"

Roots can reach a depth of 20 ft or more. 70% of the total mass of the root structure occupies the top 2 ft. Buds on the roots are found as deep as 14 ft. Fragments as short as 2 inches can produce new plants. An average plant produces 550 seeds. Seeds have a long dormancy. It can last in the soil up to 60 years. Very drought tolerant.

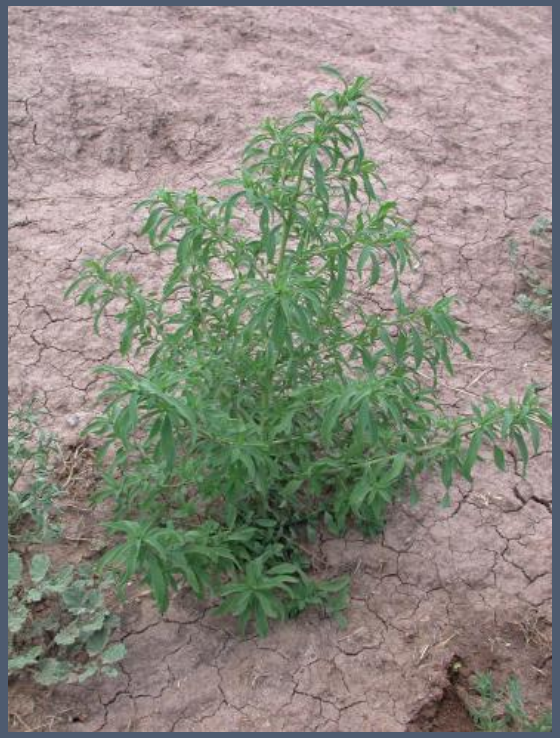
Summer cypress (*Kochia scoparia)*

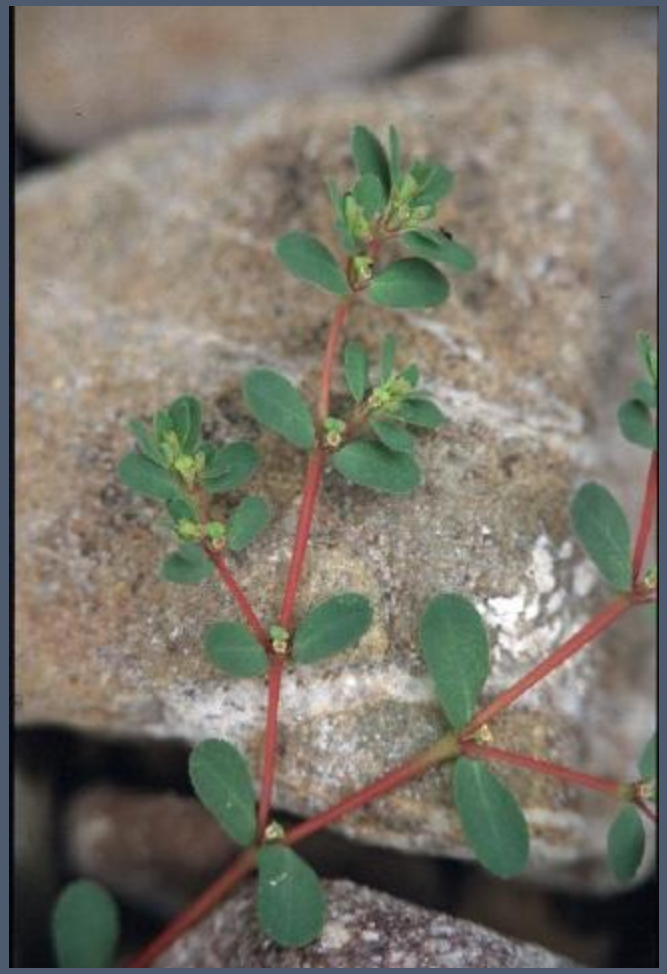
LAWN AND GARDEN AND ROADSIDE WEEDS

Found along roadsides, fields, and disturbed areas. Reproduces by seed. The plant is alelopathic inhibiting early growth of other plants. Fortunately seeds decay in one year.

Roots can penetrate 6-8 ft, laterally up to 22 ft.

Page 21 Dicots Amaranthaceae





Thymeleaf spurge
(*Chamaesyce serpyllifolia)*

In Spanish the plant is called *Yerba de la Golondrina. Curtin says "species that occur in New Mexico have long enjoyed the wide repute as a remedy against rattlesnake bites. The most common method counteracting the venom was making a poultice of the plant and placing on the wound.*

According to Curtin it was used for everything from pimples to warts.

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Euphorbiaceae

Officanados of eating wild plants , give lambsquarters an thumb's-up. It is sometimes called wild spinach.

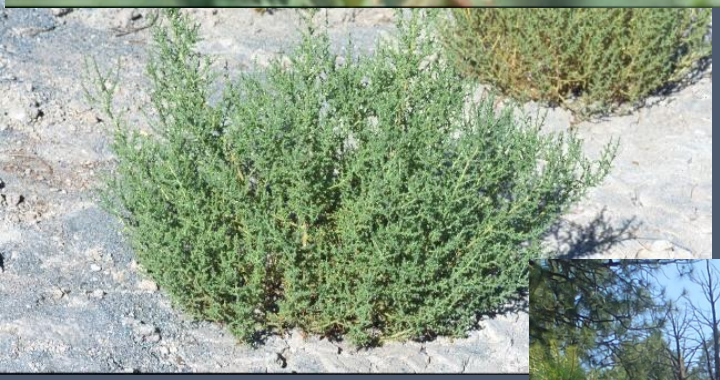
Lambsquarters is a rapidly growing summer annual weed. Height averages 3 feet (90 cm), but may vary from a few inches to 6 feet (1.8 m). The extremely variable growth behavior of lambsquarters enables the plant to adapt to almost any environmental condition. Stems are erect and sturdy with freely ascending branches. Stems are often tinged with red or striped with pink, purple, or yellow.

Common lambsquarters is propagated by seed, a single plant producing as many as 100,000 seeds.. Because lambsquarters has no special seed-dispersal mechanism, most seeds are deposited near the mother plant, and consequently the plants grow in patches.

Control is not letting the plants go to seed.

Verdolagas or purslane (*Portulaca oleracea)*

When I came to NM, I went to a Farmer's Market and found this plant for sale. I was curious and bought a big bunch. I was told to cook it with green chili and onions and it was delicious. I went home and found it was all over my garden. So much for a unique plant! This weed is native to India and Persia and is edible. It is an annual reproducing from seeds and stem pieces. Seeds can stay viable for 40 years! If you want to control it just make sure it does not go to seed. But plant pieces can root in the soil. Although it is edible, I don't recommend eating anything you are not absolutely sure of the identification.



Russian Thistle
Salsola tragus (kali)

Russian thistle is an introduced species that can tolerate salty conditions. It is a highly effective reproducer and after the seeds mature in the fall the plant separates from the root and is blown by the wind scattering the seed. Piles of the "tumbleweeds can be seen against fences." One plant typically produces about 250,000 seeds, which remain viable for less than a year. It is shade intolerant and so colonizes open spaces, and disturbed soils.

When this plant is consumed, toxins called oxalates can accumulate over time in livestock and become toxic, especially to sheep

Contaminated flax seed, brought by Russian immigrants to South Dakota in 1873, is thought to be the source of Russian thistle invasion. After its introduction, it became one of the most common weeds in the drier regions of the West. It spread by contaminated seed, threshing crews, railroad cars, and by windblown tumbleweeds. Ironically, Russian-thistle hay saved the beef cattle industry during the Dust Bowl of the 1930's, when no other feed was available for starving animals.

Garden, roadside Weeds

Cheeseweed
Malva neglecta

Here's one for you to guess and identify.

Puncture vine
Tribulus terrestris
Page 168 in Dicots
Zygophyllaceae

Pretty flower, annoying fruit. The flowering fruits dry out. You probably know it by one of its more ominous-sounding nicknames: Puncturevine, Goat-head, Cat's head or Devil's weed. The flowering fruits of this little herb dry out in late spring to summer and harden to form small, spiked seeds. Mountain bikers or hikers with dogs in the Western United States can thank Tribulus for flat tires, the need to buy thorn-resistant tubes, or constantly pulling thorns out of paws and shoes. The fruit dries to harden, spiked seeds. Mountain bikers or hikers with dogs in the Western United States can thank Tribulus for flat tires, the need to buy thorn-resistant tubes, or constantly pulling thorns out of Fido's paws.

A native of the southern Europe and Mediterranean region, puncturevine was first found in the Pacific Northwest in gravel along railroad tracks n 1924. This plant likes to hitch rides. In California, one plant produced 576,000 fruits. Assuming these fruits contained an average of two seeds per segment, the plant could have produced 1,152,000 seeds.

Guess even our worst weeds have some redeeming properties. *Tribulus* has mainly been used as an herbal and included in formulations to promote increased muscle mass or strength. WebMD talks about a number of uses.

Heron's bill, Filaree

Erodium cicutarium

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Geraniaceae

This plant provides a little color to protected places during the winter. It blooms from February on.

Introduced from Southern Europe, filaree has become naturalized over most of the US. In Spanish the plant is called *alfilerillo* which means pin. This plant was used as a herb for everything from gonorrhea to a diuretic.

NOXIOUS WEEDS

There are weeds and then there are noxious weeds!

Noxious Weed act 1974: "Noxious weed means any living stage, such as seeds and reproductive parts, of any parasitic or other plant of a kind, which is of foreign origin, is new to or not widely prevalent in the United States, and can directly or indirectly injure crops, other useful plants, livestock, or poultry or other interest of agriculture, including irrigation, or navigation, or the fish and wildlife resources of the United States or public health.

- Administered through the State Department of Agriculture
- Petitions of 25 New Mexico landowners will result in a public hearing
- If a weed is declared noxious it is unlawful to sell, give away or plant the weed within the state.
- Fines can result from not less than $25 or over $300

For the next few plants go to the chapter on Composites.

Sometime I will send you my booklet on Thistles.

Russian knapweed
Acroptilon repens

•Originally from Southeast Asia

Class B:

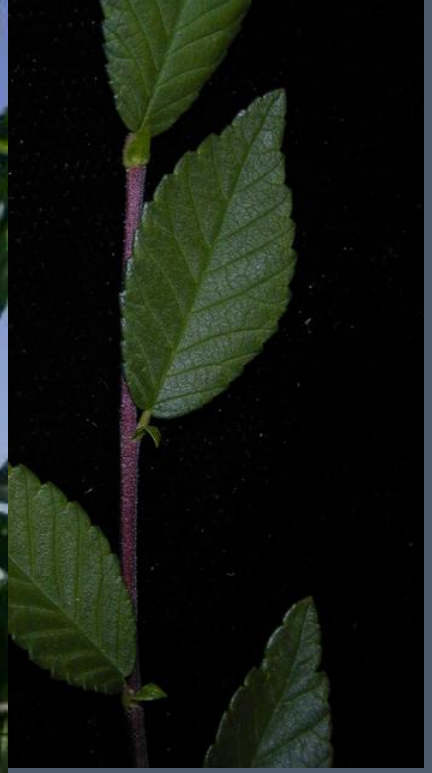
Musk thistle
Carduus nutans

Canada thistle
Circium arvense

Bull thistle
Circium vulgare

Class C:

Native thistles: New Mexico Thistle



In the 1900s, there was a mass planting practice of Siberian and American elm. These trees contributed to Dutch elm disease, responsible for the demise of most of these stately trees by spreading the disease

Siberian Elm *(Ulmus pumila)*

Class C Noxious Weed

Page 24 in Trees
Ulmaceae

The tree can invade and dominate disturbed areas Seed germination rate is high and seedlings establish quickly in sparsely vegetated areas. It grows readily in disturbed areas with poor soils and low moisture. A native of eastern Asia, Siberian elm was introduced to the U.S. in the 1860s for its hardiness, fast growth, and ability to grow in various moisture conditions.

Girdling the tree and pulling up seedlings help prevent spreading.

Tamarisk or Salt Cedar

Class C Noxious Weed
Page 23 of Trees
Tamaricaceae

First brought in as an ornamental plant for gardens it escaped. Native of the Middle-east. It is difficult to eradicate. At the Bosque del Apache they are bulldozing, using herbicide, and burning dead standing trees.

Tamarisks are extremely invasive in riparian communities, often nearly completely replacing native vegetation with impenetrable thickets. They are extremely competitive against native vegetation because they are aggressive usurpers of water. They also sequester salt in their foliage, and where flooding does not flush out soil salts the leaf litter increases the salinity of soil surfaces. Dense stands of saltcedars support lower biodiversity than the natural communities they displace.

Russian Olive

Class C Noxious weed

Page 11 in Trees

ELAEAGNACEAE

The species was introduced into North America in the late 19th century, and subsequently escaped cultivation, because its fruits, which seldom ripen in England are relished by birds which disperse the seeds. Russian-olive is considered to be an invasive species in many places in the United States because it thrives on poor soil, has low seedling mortality rates, matures in a few years, and outcompetes wild native vegetation. It often invades riparian habitats where overstory cottonwoods have died.

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Tree of Heaven
Alianthus altissima
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It is native to China and was brought to the United States in the late 1700's as a horticultural specimen and shade tree. Its ease of establishment, rapid growth and absence of insect or disease problems made it popular when planning urban landscaping. Its ability to produce an overly abundant amount of seeds, reproduction through roots and a chemical that can prevent or kill other plants near it.

The most effective way to control tree of heaven is to pull seedlings by hand before the tap root develops. If the plant has matured, cutting alone will only help temporarily by reducing its ability to spread.

NOTABLE WEEDS IN LOS ALAMOS COUNTY

Russian knapweed (*Acroptilon repens*)
Jointed goat grass (*Aegilops cylindrica*)
Musk thistle (*Cardus nutans*)
Canada thistle (*Circium arvense*)
Bull thistle (*Cirsium vulgare*)
Field bindweed (*Convolvulus arvensis*)
Russian Olive (*Elaeagnus angus*tifolia)
Perennial pepperweed (*Lepidium latifoli*um)
Yellow toadflax (*Linaria* vulgaris)
Salt Cedar (Tamarix *chinensis)*
*Siberian elm (*Ulmus pumila)

Fun Facts and quotes about Weeds

(If you have survived reading this so far, here are some facts about weeds from the voices of others)

- Weeds are little vices that beset plant life, and are to be got rid of the best way we know how. Farmer's almanac 1881
- A mature Tamarisk plant consumes 300 gallons of water a day.
- A weed is a plant that is not only in the wrong place, but it intends to stay—Sara Stein
- Goats eat thistle leaves backward to prevent them from sticking in their throats.
- Weeds don't need planting in well-drained soil; they don't ask for fertilizer or bits of rag to scare away birds. They come without invitation; and they don't take the hint when you want them to go. Weeds are nobody's guests: More like squatters—Normal Nicolson.
- A weed is a plant that has mastered every survival skill except for learning how to grow in rows.—Doug Larson
- After burs of burdock stuck in his wool plants and dog's fur, George de Mestral got the idea for velcro. It is an invention inspired by a weed.

Woodlily

Violet

139. The Critical Weed

A little seed lay on the ground,
And soon began to sprout.
Seeing all the flowers around
It wondered: "How shall I come out?

The lily's face is fair and proud,
But just a trifle cold.
The rose, I think, is rather loud,
And its fashion's getting old.

Of the violet some may think well,
But it's not a flower I'd choose;
Nor even the canterbury bell,
I've never cared for blues."

And so it criticized each flower,
This haughty little seed,
Until it woke one summer noon,
And found itself a weed!

World of Stories for Preachers and Teachers, W. Bausch

Lamb's quarters

Moral: Be careful what you wish for!