

Echinacea

E. purpurea, *E. angustifolia*, *E. pallida*, *E. paradoxa*, *E. tennesseensis*

Some of the many species of echinacea have yet to be explored for their medicinal properties. The species most often spoken about are *E. purpurea* and *E. angustifolia*. Though herbalists use them interchangeably, some feel the *E. purpurea* is best for prevention while the *E. angustifolia* is better for helping the immune system fight an existing problem.

As one of the most important herbs of our times, Echinacea was listed in the United States Pharmacopoeia until 1950 but had fallen out of favor in this country until it was rediscovered in the mid-1970's by a group of errant herbalists.

Contrary to what many believe, not only the root of the plant but also the leaves and flowers are very potent and enhance immune functions.

To identify between *E. purpurea* and *E. angustifolia*, look at the flower petals. *E. purpurea* has oval petals with a little notch at the ends; *E. angustifolia* has short, smooth petals.

Echinacea facts:

- Found throughout North American prairies, plains, and open woodlands
- Perennial
- 6 mg of the glycoside Echinacoside is equivalent to one unit of penicillin

Echinacea description:

- Root tapering, cylindrical, entire, slightly spiral, longitudinally furrowed; fracture short, fibrous; bark thin; wood, thick, in alternate porous, yellowish and black transverse wedges, and the rhizome has a circular pith
- Flowers are a rich purple and the florets are seated round a high cone; seeds, four-sided achenes

Echinacea nutritional information:

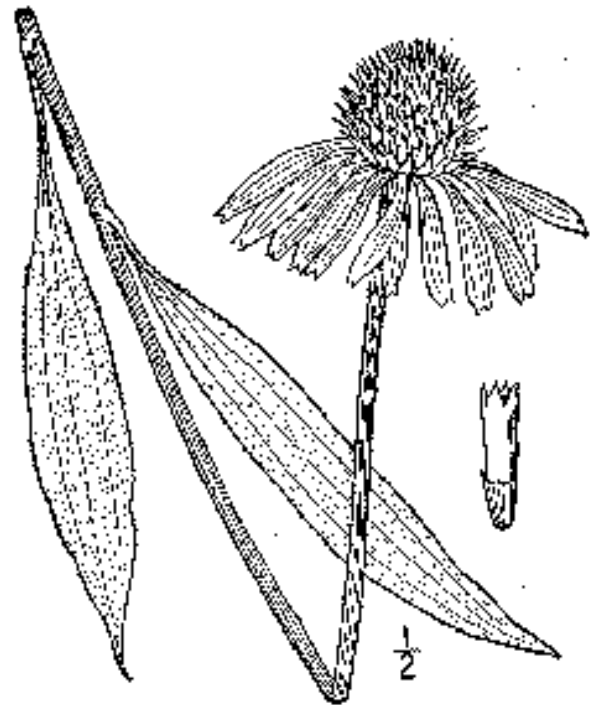
- None listed

Echinacea constituents:

- Echinacoside, in *E. angustifolia* but not *E. purpurea*. Research suggests that the echinacosides glycosides appear to be primary anti-microbial constituents in Echinacea
- Unsaturated isobutyl amides, echinacin and others, in *E. angustifolia* and *E. pallida*
- Polysaccharides; a heteroxylan and an arabinorhamnolactan
- Polyacetylenes, at least 13 of which have been isolated. It has been postulated that these are artifacts formed during storage, since they are found in dried but not fresh roots of *E. pallida*
- Essential oil, containing humulene, caryophyllene and its epoxide, germacrene D and methyl-p-hydroxycinnamate
- Miscellaneous; vanillin linolenic acid derivatives, a labdane derivative, alkanes and flavonoids and the alkaloids tussilagine and isotussilagine

Echinacea actions:

- Alterative
- Analgesic
- Antibacterial
- Antibiotic



- Anticatarrhal
- Anti-microbial
- Antiseptic
- Antiviral
- Carminative
- Diaphoretic
- Febrifuge
- Sialagogue
- Stimulant
- Tonic
- Vulnerary

Echinacea Medicinal Indications:

- Primary remedy for helping the body rid itself of microbial infections
- Often effective against both bacterial and viral attacks, and may be used in conditions such as boils, septicemia and similar infections
- It is especially useful for infections of the upper respiratory tract such as laryngitis, tonsillitis and for catarrhal conditions of the nose and sinus
- May be used as a mouthwash in the treatment of pyorrhea and gingivitis
- Use to treat toothaches (Natives chewed a piece of root then held it against the affected tooth)
- Glycosides from the roots have mild activity against Streptococci and Staphylococcus aureus
- Activates the macrophages that destroy both cancerous cells and pathogens, increases the level of phagocytosis by raising levels of white blood cells such as the neutrophils, monocytes, eosinophils, and B lymphocytes
- Useful for treating wounds, insect bites and snake bites
- Stimulates lymph system: helps to detoxify which assist in healthier skin, muscles and joints as well as help to cleanse upper respiratory tract. Used for poor drainage, swollen lymph nodes, edema, inflammatory conditions of the lymphatic system
- Improves circulation to peripheral areas of the body such as hands and feet
- "Cleanses" the blood from impurities
- Increases white blood cell count

Echinacea Applications:

- Infusion of leaves and flowers – For all uses above Gently boil 2 –3 teaspoons of powdered root per cup of water for 15 minutes. Cool. Drink up to 3 cups a day.
- Extract – for all uses above; may be used as a mouthwash in the treatment of pyorrhea and gingivitis take 1–2 teaspoons up to 3 times a day

Preserving Echinacea:

- Drying

Getting to Know Echinacea:

Experiment 1 – know what it looks like

Study a live plant or pictures if the live version is not available. Notice how it grows out of the ground. Is it bushy? Does it sprawl? Where are the leaves located? What do the flowers look like? Sketch the plant on the last page of this handout.

Experiment 2 – taste the herb

Try it both fresh and dried. What does it taste like in both instances?

Fresh aerial parts:

Dried aerial parts:

Experiment 3 – making an infusion

4 tablespoons raw herb (leaves and stems, chopped) = 1 tablespoon dried.

Use 1 tbsp dried herb per cup of water. Boil water, and remove from flame. Add herb and steep 10–20 minutes.

- Compare the difference between fresh and dried infusions
- Compare the difference between warm and chilled infusions

	Fresh aerial	Dried aerial
tea		
infusion		

Experiment 4 - making a medicinal remedy

Herbal Extract

Fresh Echinacea leaves and flowers
Everclear

Chop all parts until fine. Place in a jar until half full. Add Everclear to fill 3/4. Top with water. Let sit for 4–6 weeks minimum. There is no need to strain. The longer it sits, the stronger it gets. I prefer to wait 6 months if possible. There will be a strong 'buzz' when you taste the extract.

Experiment 5- cooking with Echinacea

Not used in cooking

Experiment 6 - Further study/references

The following are some internet sites that have great information on Echinacea:

<http://spiraeaerbs.wordpress.com/tag/purple-coneflower/>
<http://www.hawthornehillherbs.com/node/192>
<http://www.healthy.net/scr/article.asp?ID=1886>
<http://botanical.com/botanical/mgmh/e/echina01.html>
<http://regannaturopathic.com/2011/02/power-of-the-purple-flower-echinacea-2/>

- On your own, read at least three separate sources of information regarding Echinacea. The following are some books that have information but do not limit your search to my selections.
 - Indian Herbology of North America by Alma Hutchins pgs. 113 – 114
 - A Modern Herbal by Mrs. M. Grieve pgs. 265
 - The Holistic Herbal by David Hoffman p. 87
 - The Complete Medicinal Herbal by Penelope Ody p. 52
 - Rosemary Gladstar's Family Herbal by Rosemary Gladstar p. 328 – 329
 - Herbal Antibiotics by Stephen Harrod Buhner
 - The Healing Power of Echinacea & Goldenseal by Paul Bergner
 - Echinacea: Nature's Immune Enhancer by Steven Foster
 - Making Plant Medicine by Richo Cech pgs. 142 – 144
 - The Book of Herbal Wisdom by Matthew Wood
- Grow some Echinacea in your garden! If you see it growing in the wild, wait until fall and harvest 1 seed head. Seeds should be cold stratified for 30 – 60 days before sowing in a pot. This can be done in the fridge or you can winter sow by placing in a pot in the late fall and leave in a sheltered location outside. In the spring, the seeds should sprout. Echinacea can be found in garden centers or through local plant conservation sources. Try to avoid cultivars, they are bred for specific traits such as flower color, miniature plants or other unnatural characteristics. While being pretty, they usually lack the strong medicinal value.

