Echinacea

Also known as: **Black Samson**; **Black Sampson**; **Black Susan**; **Comb Flower**; **Hedgehog**; **Indian Head**; **Kansas Snakeroot**; **Missouri Snakeroot**; **Purple Coneflower**; **Rudbeckia**; **Scurvy Root**

Description

Echinacea is a perennial Herb that is native to North America.

Botanical Names

- *Echinacea angustifolia* (the more potent variety)
- *Echinacea pallida*
- *Echinacea purpurea*
- All species of Echinacea belong to the Composite *(Compositae)* family.

Parts Used

- Roots
- Rhizomes
- Leaves

Health Benefits of Echinacea

Cardiovascular System

- Echinacea may increase the body's **Red Blood Cell** count and may improve the function of Red Blood Cells. references

Immune System: Ailments

- Echinacea may accelerate the recovery from many types of **Bacterial & Viral Diseases** and may help to prevent many types of Bacterial & Viral Diseases: references
  - Echinacea may inhibit some forms of **Detrimental Bacteria** (due to Echinacoside) including:
    - **Escherichia** species references
    - **Listeria monocytogenes** references
    - **Propionibacterium acnes** references
    - **Pseudomonas aeruginosa** references
    - **Staphylococcus aureus** references
    - **Streptococcus** species
  - Echinacea may inhibit some types of **Detrimental Fungi**:
    - Echinacea may prevent the recurrence of infection by **Candida albicans** (due to the Echinacoside content of Echinacea). references
    - Echinacea may inhibit **Cryptococcus neoformans**. references
    - Echinacea may inhibit **Epidermophyton floccosum**. references
    - Echinacea may inhibit **Microsporum gypseum**. references
    - Echinacea may inhibit **Trichophyton mentagrophytes**. references
  - Echinacea may suppress the rate of growth and the rate of reproduction of **Trichomonas vaginalis** (the Detrimental Protozoa that is responsible for causing most cases of Leukorrhea) (due to the Echinacoside content of Echinacea). references
  - Echinacea may suppress many **Viruses**: references
    - Echinacea has been regarded as a valuable adjunct to the treatment of **Acquired Immune Deficiency Syndrome** (AIDS), due to its ability to stimulate Immunity. references
      Echinacea purpurea has been shown to stimulate NK Lymphocytes and Phagocytes in AIDS patients.
      There are some concerns regarding the us of Echinacea in AIDS as Echinacea may also increase the body's levels of Tumor Necrosis Factor (TNF) and TNF is known to stimulate the replication of the HIV virus that causes AIDS.
    - Echinacea may inhibit the induction of inflammatory Cytokines by **Adenoviruses** and may exert virucidal (virus-killing) effects against Adenoviruses. references
    - Echinacea may inhibit the Viruses that cause the **Common Cold** (thereby

helping to prevent the Common Cold, accelerating recovery from the Common Cold and reducing the symptoms of the Common Cold. references
    - Caution: some studies have found no benefit for the use of Echinacea for the treatment of the Common Cold.
- Echinacea may exert anti-viral effects against **Herpes Simplex Viruses**: references
    - Echinacea may exert anti-viral effects against the **Herpes Simplex Virus Type 1**. references
- Echinacea may help to prevent **Influenza** and may exert anti-viral effects against Influenza Viruses (primarily by stimulating the production of Interferon Alpha and Interferon Beta). It has also been demonstrated to significantly reduce the symptoms of Influenza. references
  Clinical trials that have demonstrated the effectiveness of Echinacea for the treatment of Influenza have generally involved the use of *Echinacea purpurea* root (alcohol extract) at a dosage of 900 mg (180 drops) per day.
- Echinacea may inhibit the induction of inflammatory Cytokines by **Respiratory Syncytial Virus** and may exert virucidal (virus-killing) effects against Respiratory Synyctial Virus. references
- Echinacea may inhibit the induction of inflammatory Cytokines by **Rhinoviruses** and may exert virucidal (virus-killing) effects against Rhinoviruses. references

- Echinacea may be useful for the treatment of **Cancer** (due to its effect on NK Lymphocytes, its ability to stimulate Tumor Necrosis Factor (TNF) and due to its ability to activate Macrophages): references
    - Echinacea may stimulate the production of NK Lymphocytes in **Leukemia** patients and prolongs the life span of Leukemia patients. references
- Echinacea may inhibit **Inflammation** (by inhibiting the Hyaluronidase, Cyclooxygenase and 5-Lipoxygenase enzymes). references

Immune System: Underlying Mechanisms

- Echinacea may be beneficial for the Immune System and may enhance numerous aspects of the **Immune System**: references
    - Echinacea at first depresses the body's levels of certain **Complement** factors and then greatly increases the body's levels of those same Complement factors.
    - Echinacea may increase the number of circulating **Granulocytes**: [more info]
        - Echinacea stabilizes the ratio of **Neutrophils** to other White Blood Cells and may increase the number of circulating Neutrophils. references
    - Echinacea may stimulate **Stem Cells** in the **Lymphatic System**. [more info]
    - Echinacea may stimulate the production of **Lymphocytes** and may stimulate the production of Lymphokines by Lymphocytes: references
        - Echinacea may stimulate the production of **B-Lymphocytes**. references
        - Echinacea may activate **NK Lymphocytes** (in both healthy people and in people afflicted with Acquired Immune Deficiency Syndrome (AIDS) or Chronic Fatigue Syndrome (CFS)). references
        - Echinacea may activate T-Lymphocytes and may increase the body's production of **T-Lymphocytes**. references
    - Echinacea may stimulate the body's production of **Monocytes**: references
        - Echinacea activates **Macrophages** and may increase the phagocytic effect of Macrophages on Cancer cells (due to Polysaccharides in Echinacea). references
    - Echinacea may stimulate **Phagocytes** to destroy Antigens (in both healthy people and in Acquired Immune Deficiency Syndrome (AIDS) patients or Chronic Fatigue Syndrome (CFS) patients). references
    - Echinacea may enhance the function of the **Spleen**. references
    - Echinacea may increase serum **White Blood Cell** counts when they are lower than normal. references

Metabolism

- Echinacea (*Echinacea purpurea* species) may stimulate NK Lymphocytes and Phagocytes in **Chronic Fatigue Syndrome** (CFS) patients. references

Oral Health

- Echinacea (fluid extract applied topically to the Gums or used as a Mouthwash) may alleviate **Gingivitis** (due to the Echinacoside content of Echinacea suppressing the detrimental Streptococcus Bacteria that often causes Gingivitis). references
- Echinacea (4 ml of fluid extract held in the mouth as a mouth rinse and then swallowed) may alleviate **Mouth Ulcers**. [more info]
- Echinacea (tincture or liquid used as a mouthwash) benefits the treatment of **Periodontal Disease**. references

Respiratory System

- Echinacea may accelerate the healing of **Pharyngitis** (sore throat). references
- Echinacea may alleviate **Pleurisy**. [more info]
- Echinacea may alleviate many types of **Respiratory Tract Infections**. references
- Echinacea may alleviate **Sinusitis** (when Sinusitis is caused by Detrimental Bacteria or Viruses). references

Sexual System

- Echinacea may help to prevent **Enlarged Prostate**. references
- Echinacea suppresses the rate of growth and the rate of reproduction of Trichomonas vaginalis (the Detrimental Protozoa that is responsible for causing most cases of **Leukorrhea**) (due to the Echinacoside content of Echinacea). [more info]

Skin

- Echinacea may be useful for the treatment of **Acne** (due to its ability to kill Propionibacterium acnes). references
- Echinacea may accelerate the healing of various **Skin** infections caused by Detrimental Bacteria (by stimulating phagocytosis). [more info]
- Echinacea may help to prevent or treat **Tinea** (due to the ability of Echinacea to totally inhibit the growth of Epidermophyton Fungi that cause Tinea). references

Echinacea may Enhance the Function of these Substances

Carbohydrates

- Echinacea may protect **Hyaluronic Acid** from destruction by the Hyaluronidase enzyme (by inhibiting Hyaluronidase). references

Immune System Chemicals (Cytokines)

- Echinacea may stimulate the production of **IgG**. references
- Echinacea may stimulate the production of optimal quantities of **IgM**. references
- Echinacea may stimulate the production of **Interferon Alpha**. references
- Echinacea may stimulate the production of **Interferon Beta**. references
- Echinacea may stimulate the production of **Interferon Gamma**. references
- Echinacea may increase the production of **Interleukin 1** by Macrophages. references
- Echinacea may increase **Interleukin 2** levels. references
- Echinacea may increase the production of **Interleukin 6**. references
- Echinacea may increase the production of **Interleukin 10**. references
- Echinacea may increase serum **Properdin** levels. references
- Echinacea may increase **Tumor Necrosis Factor** (TNF) levels (due to the Echinacin content of Echinacea). references

Echinacea may Inhibit these Potentially Toxic Substances

Enzymes

- Echinacea may inhibit **Cyclooxygenase** (an enzyme that causes Inflammation). references
- Echinacea may inhibit **Hyaluronidase** (a group of enzymes that can be stimulated by Detrimental Microorganisms to break apart the Connective Tissues surrounding the body's cells) (due to the Echinacin B and Echinacoside content of Echinacea binding to Hyaluronidase). references
- Echinacea may inhibit (the 5-Lipoxygenase form of) **Lipoxygenase**. references

Electromagnetic Radiation

- Echinacea may protect the body from the toxic effects of **Radioactivity**. references

Echinacea Contains these Substances note

Alkaloids:	Betaine	Tussilagine	
	Isotussilagine		
Carbohydrates:	Rhamnose	Fructose	
	Glucose	Galactose	
	Glucuronic Acid	Sucrose	
	Xylose	Arabinose	
	Polysaccharides:	Echinacin **	
		Echinacin B	
		Inulin	5.9%
Isobutylamines:	Echinacein*		
Lipids:	Palmitic Acid		
	Polyacetylenes:	Echinalone*	
Minerals:	Copper	Potassium	
	Iron	Sulfur	
	Selenium	Chromium	
	Cobalt	Manganese	
	Zinc		
Phenolic Acids:	**Caffeic Acid Derivatives:**	Chicoric Acid (Cichoric Acid)	
		Chlorogenic Acid	
		6-O-Caffeoylechinacoside	
		Des-Rhamnosylverbascoside	
		Echinacoside *	
		Verbascoside	
	Caffeic Acid	Cynarin	
	Caftaric Acid	Isochlorogenic Acid	
Polyphenols:	Rutoside	Luteolin	
	Kaempferol	Quercetin	430
	Quercetagetin	Apigenin	
	Isorhamnetin		
Proteins:	Glycoproteins		
Terpenes:	Humulene	Echinadiole	
Vitamins:	Vitamin A	Vitamin C	
	Vitamin E	Vitamin B2	
Volatile Oils:	Borneol	Bornylacetate	
	Pentadeca-8-ene-2-one	Germacrene D	
	Caryophyllene #		
Other:	Alkamides (Alkylamides)	Isobutylamides	
	Pentadecadiene	Echinacen B	
	Tannic Acids	Echinacen	

Echinoline	Inuloid
Echinolone	

* Present only in *Echinacea angustifolia*
\# Present only in *Echinacea pallida*
** Present in highest quantities in *Echinacea purpurea*

Dosage Recommendations

More Information about Echinacea Dosage

Preventative Purposes

- When fluid extracts or tinctures of Echinacea are used, the recommended preventative dosage is **3 - 12 ml** per day (taken as three divided doses of 1 - 4 ml each).
- When capsules or tablets of (unstandardized) Echinacea are used for preventative purposes, the recommended dosage is 3,000 - 4,500 mg per day (taken as three divided doses of 1,000 - 1,500 mg each).
- When capsules or tablets of Echinacea standardized to contain 4% Echinacosides are used for preventative purposes, the usual recommended dosage is 450 - 750 mg per day.

Infections

- Some herbalists recommend high doses of Echinacea during the initial stages of treatment of infections, for instance 40 drops of Echinacea tincture or 400 - 500 mg of dried herb taken every two hours for 24 to 48 hours.
- The recommended dosage of Echinacea for the treatment of the **Common Cold** is 9 - 12 ml (of Echinacea 1:5 tincture or juice) taken as three equally divided doses. Higher doses generally produce greater effects - for example, 3 - 5ml (of Echinacea tincture or juice) taken every two hours (= up to 80 ml per day).
- The recommended dosage of Echinacea (capsules or tablets) for the treatment of the Common Cold is 900 - 1,800 mg per day (taken as three equally divided doses).
- Clinical trials that have demonstrated the effectiveness of Echinacea for the treatment of **Influenza** have generally involved the use of *Echinacea purpurea* root (alcohol extract) at a dosage of 900 mg (180 drops) per day.

Cycled Doses?

- Previously, many researchers recommended that Echinacea only be used in cycled doses (e.g. four days "on", followed by three days "off"; or for up to eight weeks every day followed by a one week "rest period"). This cycling of Echinacea dosing is now regarded as unnecessary, i.e. Echinacea can be used long-term without risk.

Commercial Availability of Echinacea

"Singular" Oral Echinacea Products

- Echinacea is available from health food stores, herb suppliers, supermarkets and mail order supplement companies (worldwide) in the form of:
  - loose, dried Echinacea angustifolia root
  - loose, dried *Echinacea pallida* root
  - loose, dried *Echinacea purpurea* root
  - 1:2 or 1:5 fluid extract/tincture of *Echinacea angustifolia*
  - 1:2 or 1:5 fluid extract/tincture of *Echinacea purpurea*
  - powdered Echinacea pallida root
  - 125 mg *Echinacea angusifolia* capsules standardized to contain 4% Echinacoside
  - 250 - 1,000 mg *Echinacea angustifolia* capsules
  - 380 mg *Echinacea purpurea* (whole plant) capsules
  - 450 - 500 mg *Echinacea purpurea* (root) capsules
  - 300 - 575 mg *Echinacea angustifolia* tablets
  - throat lozenges

Topical Products

- Echinacea is an ingredient in some topically applied Skin creams.

Format of Echinacea Products

- Some research indicates that tincture preparations of Echinacea may destroy the active Polysaccharides in Echinacea.

Standardization

- Some Echinacea preparations are **standardized** to contain up to 4% of **Echinacoside(s)** and/or **15%** total **Polysaccharides**.

Related Topics

- Echinacin
- Echinacoside
- Herbs
- Immune System