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# An NTFP Tutorial For Growing Slippery Elm

*Ulmus rubra*, Syn. *Ulmus fulva* (Ulmaceae)

**Compiled by: A.L. Hammett and Brigitte Parsons**

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## Introduction

Since 1847 professional singers have been told: "Sing better with slippery elm!" Almost all throat lozenges on the market today contain slippery elm, which is the best and most natural way for quick, effective relief of a dry or sore throat. The tree is also called gray elm, Indian elm, moose elm, red elm, soft elm, and sweet elm. It is a medium-sized, deciduous tree of moderately fast growth, capable of growing to 50-80 feet tall, though larger specimens are becoming increasingly more difficult to find due to the effects of Dutch elm disease and cutting for its bark. The trunk is dark brown to reddish brown with thick and rough bark. It can be identified by its "slippery" inner bark. Native Americans were the first to discover that the mucilage (slippery substance) surrounding the fibers swells when it comes in contact with water, and produces a soothing ointment. The inner bark provided one of the most versatile medicines for both the Native Americans and the early settlers, and was listed in the United States Pharmacopoeia from 1820 to 1936.



Fruit of Slippery Elm. Picture Source: Ohio DNR

## Medicinal Properties

Native Americans used a tea made from the fresh inner bark as a laxative. They used the poultice of the bark for toothaches, and to extract thorns and shot pellets. A poultice is a soft mass which is usually heated and spread on cloth for application to sores, inflamed areas, or other lesions, to supply moist warmth, relieve pain, or act as a counterirritant or antiseptic. During the American Revolution, surgeons treated gunshot wounds with slippery elm bark poultice. The ethnobotanical uses of slippery elm include its use as an



Picture Source:  
Herbs  
Delivered.com

antitussive, demulcent, diuretic, emollient, laxative, and preventative. The mucilage acts as an effective cough suppressant and soothes the throat. The high mucilage content also helps to heal the mucous membrane of the gastrointestinal tract and is used to treat gastritis, gastric catarrh, mucous colitis, and enteritis. Salves containing slippery elm extract have been used to treat skin ailments such as chafe, burns, and wounds. Brews are used internally for treating diarrhea, constipation, kidney problems, and many other ailments. The inner bark is highly nutritious and is made into gruel, a thick mixture like oatmeal. The gruel forms a wholesome and sustaining food, which is easily digested by infants, convalescents, and invalids. During pregnancy, Native Americans used a tea containing slippery elm powder for easy labor. In the powder form, slippery elm is used in suppositories with a little powdered white oak bark to treat mild hemorrhoids.

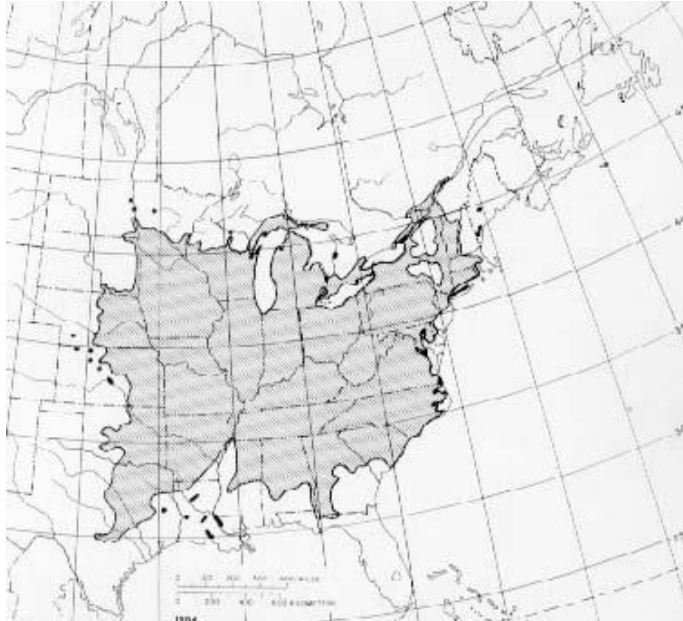


Picture Source:  
Med Grasp.

Slippery elm contains compounds called oligomeric procyanidins that exhibit antiseptic and anti-allergic properties. They find applications in treatment of asthma and bronchitis. There are many complementary agents that enhance the effectiveness of slippery elm as a medicine. Slippery elm could be combined with parts of one or more of the following plants: aloe vera, marshmallow, mullein, saw palmetto, and thyme for treatment of other ailments.

## Site Selection

- Southwestern Maine west to eastern South Dakota, south to Central Texas and northwestern Florida. Less common in its range south of Kentucky and is most abundant just south of the Lake States and in the corn belt of the Midwest.
- Frequently colonizes disturbed sites such as surface mines.
- Prefers the moist, rich soils of lower slopes and floodplains, though it will grow on a wide variety of soils.



Native Range of Slippery Elm. Picture Source: USDA Forest Service Silvics Manual.



Planting Slippery Elm Seedlings. Picture Source: Frontier Herbs, Inc.

## Propagation

Slippery elm is a hardy tree that can be cultivated by seeds or cuttings in most soils in full sun. Seeds mature April to June and are wind dispersed upon ripening. The seeds desiccate quickly so should be sown immediately in seedbeds or nursery trays. Expect the majority of seeds to germinate the following spring. Newly planted saplings might require protection from deer browsing.

## Harvesting

The bark can be collected in spring or fall from the bole and larger branches, however it is not recommended that the whole bark be shaved from the tree trunk. It is better to use the bark of the branches that may need pruning. Ethical wildcrafters recommend first gauging the amount needed and then stripping the bark from 1/4th or less of the branches. It takes almost ten years for the slippery elm tree to reach harvest age. Bark harvesting

could also make the tree more susceptible to Dutch elm disease infection by providing a direct entrance for the fungus causing the Dutch elm disease. Therefore, it is recommended that planting of saplings should accompany harvesting of the tree.

The coarse outer bark should be removed to expose the inner layer. After the outer bark is removed, the inner portion can be removed in strips, squares, or chips. The inner bark should be dried under pressure so that it remains flat. It can be sun-cured then packaged in burlap sacks and stored in an unheated warehouse. The ideal particle size of slippery elm bark on powdering in the milling operation is 1/16 inch. This process results in high loss in dust. Screen sizes are



Slippery elm bark. Photo source: A.L. Hammett

standardized as United States Standard (USS). For example, 1/8 inch is also known as a 8 mesh USS. Tableting requires a 40 to 60 mesh USS and capsulation requires even finer grades, usually as small as 80 to 120 mesh USS. As with the processing of many medicinals, to process dusts this fine, special ventilation and capture systems for airborne particles are required to minimize losses.



Slippery elm bark and an example of products made from bark. Photo source: A.L. Hammett

## Marketing

Slippery elm is marketed as an herbal expectorant and as a general herbal supplement. It is marketed in the form of dried inner bark (as flat pieces or powdered), liquid extracts, capsules, lozenges, tablets, and tea by many manufacturers of herbal products. These companies include Flora, Frontier Herbs, Naturade, and Nature's Way. The powdered bark is sold in two forms: a coarse powder for use as poultices and a fine powder for making a mucilaginous tea.

Many companies sell teas containing herbs. These teas differ in the herb used as an ingredient. The tea is generally sold in tea bags. A company, Traditional Medicinals markets a tea containing slippery elm as one of the main constituents as 'supporting throat health and respiratory system' under brand names Throat Coat and Herba Tussin. Another company, Celestial Seasoning markets its slippery elm tea under the brand name Throat Soothes Tea.

Throat lozenges are marketed as treatment for common colds by Quantum and Thayers, among other manufacturers. Thayers markets its throat lozenges under brand names such as Original Slippery Elm Lozenges, Wild Cherry Slippery Elm Lozenges, and Tangerine Slippery Elm Lozenges with Rose Hips and Vitamin C. The company has recently introduced diabetic-safe, sugar-free lozenges.

The U. S. Food and Drug Administration (FDA), the nation's oldest and foremost consumer protection agency, provides public health information on a variety of consumer products. The FDA has declared slippery elm safe and approved it as a nonprescription product for demulcent (soothing of the mucous membranes) use.

### **Resources**

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[http://www.na.fs.fed.us/spfo/pubs/silvics\\_manual/volume\\_2/ulmus/rubra.htm](http://www.na.fs.fed.us/spfo/pubs/silvics_manual/volume_2/ulmus/rubra.htm)

Natural HealthLink:

<http://www.naturalhealthlink.com/ReferenceLibrary/healthnotes.asp?ArticleID=641&type=1>

Non-timber Forest Products Web Site of Virginia Tech, Slippery Elm:

<http://www.sfp.forprod.vt.edu/factsheets/elm.pdf>

*(The following web site contains ethnobotanical information on slippery elm)*

Phytochemical Database, USDA - ARS - NGRl, Beltsville Agricultural Research Center, Beltsville, Maryland: <http://www.ars-grin.gov/duke/ethnobot.html>

*(The following two web sites provide information on slippery elm)*

A Modern Herbal by Mrs. M. Grieve:

<http://www.botanical.com/botanical/mgmh/e/elmsli09.html>

The Longwood Herbal Task Force Publications:

<http://www.mcp.edu/herbal/slipperyelm/slipperyelm.htm>

*(The following are home pages for companies that manufacture herbal medicines)*

Frontier Natural Products Co-op: <http://www.frontiercoop.com/>

Thayers Natural Pharmaceuticals: <http://www.thayers.com/>

### **Photo Sources**

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**Contact Information:**

A.L. Hammett

Virginia Tech Department of Wood Science and Forest Products

210 Cheatham Hall

Blacksburg, Virginia 24061-0323

Office: (540)-231-2716

Fax : (540)-231-8176

Email Address : [himal@vt.edu](mailto:himal@vt.edu)