

---

## HERBS FOR SEASONAL INFLUENZA

---

Flu usually refers to viral infections of the upper respiratory tract that are common and usually seasonal. Flu can also refer to seasonal, infectious gastrointestinal upset but this chapter focuses on respiratory influenza. Influenza is technically caused by one of three types of influenza viruses (A, B, or C), but many other viruses cause various flu-like syndromes. The viruses spread between people by airborne respiratory droplets, commonly in the late fall and winter. Recently it has been shown that cool temperatures in the autumn and winter stabilize and protect viruses for longer, thus enhancing transmission.<sup>1</sup> Symptoms include runny nose, sore throat, nonproductive cough, fever, headache, muscle ache, and fatigue. In simple cases, the acute symptoms lessen within five days. Cough and fatigue, however, can persist. Viral pneumonia and secondary bacterial infections can be complications of flu; so ongoing fatigue and lung involvement are a red flag calling for medical evaluation, especially in the more vulnerable groups: young children, seniors, diabetics, the immune compromised (HIV, hepatitis, mononucleosis, etc.) and overworked, fatigued adults.

Influenza A is clinically the most important strain and its infection is characterized by fever and chills, often with cough, sore throat, headache, and myalgia.<sup>2</sup> The best predictors of a laboratory confirmed diagnosis of influenza A are cough and fever.<sup>3</sup> Other symptoms and complications may occur such as otitis media, conjunctivitis, and more severe respiratory tract symptoms. The most severe complication is viral pneumonia that can develop rapidly. Some patients also are at risk for developing secondary bacterial infections. The magnitude of viral replication, fever, respiratory and systemic symptoms directly correlate with levels of IL-6 and TNF-alpha in upper respiratory secretions.<sup>4</sup> In volunteers treated with antiviral drugs, the reduction of viral replication was associated with a reduction in the production of these cytokines along with improved symptoms indicating that moderating these cytokines is beneficial.<sup>4</sup>

Plant medicines offer a unique preventive and therapeutic approach. Herbs are often able to support physiological function in the human body so as to “boost” the body’s own immune response. Because they are not isolated molecules (but a mix of multiple molecular structures in a complex soup of active and inert ingredients) their antibacterial and antiviral actions are not particularly susceptible to the development of microbial resistance, drug-resistant bacterial strains may be more effectively treated with select herbal remedies.<sup>5</sup>

### PREVENTIVE BOTANICAL MEDICINES DURING FLU SEASON

The best treatment for seasonal influenza is prevention. In all the traditional medicine systems of Africa, Asia, the Middle East, and so on, the distinction between plants as foods and as medicines is vague and arbitrary. People intent on protecting themselves and their children from flu who stay up late, snack on sweet or refined treats, and skip balanced, nourishing meals while religiously taking doses of echinacea or other herbs are fighting a losing battle. In a nut-

shell, proper nutrition is the best method of avoiding coming down with the flu in the first place. A healthy diet, rich in fruits and vegetables as well as spicy, warming dishes prepared with cayenne or jalapeno peppers (*Capsicum* spp.), mustard (*Brassica nigra*) seed, ginger (*Zingiber officinale*) rhizome, horseradish (*Cochlearia armoracia*) root, and garlic (*Allium sativum*) bulbs, are the best preventative. Vitamin-rich herbs, as teas or juices, can also be added to the diet during flu season. These include rose hips (*Rosa canina*) and berries, as teas or food. Other key nutrients include selenium. Animal studies show that selenium-deficient mice are more susceptible to flu virus and also tended to develop pneumonia when infected with the flu. Interestingly, selenium deficiency altered both the animals' immune systems and the viral pathogen itself.<sup>6</sup>

The rapid replication of the virus induces oxidative stress in the host cells. Cellular glutathione content helps the host down-regulate viral replication, protects against viral production in airway epithelial cells, and has anti-influenza activity in vitro and in vivo.<sup>6</sup> N-acetyl-cysteine (NAC) is a precursor to reduced glutathione and appears to quiet production of pro-inflammatory cytokines in glutathione-depleted alveolar macrophages.<sup>6</sup>

Mice fed a vitamin E-supplemented diet had significantly lower pulmonary viral titers compared to mice on a regular diet and the vitamin appeared to decrease the production of pro-inflammatory cytokines in cells. Other antioxidants are also important: quercetin appeared to protect the lung from free radicals released during influenza virus infection. Curcumin, from turmeric, induced synthesis of glutathione in alveolar epithelial cells, and antioxidants generally suppressed the production of IL- in bronchial epithelial cells. Vitamins (vitamins A, C, B2, B5, folic acid, B12, and K1) and the mineral magnesium have also been shown to improve immune function in influenza.<sup>6</sup>

Thus, a combination of a diet rich in fruits, vegetables, herbs, and spices (to provide antioxidants, vitamins, and minerals) along with well-chosen supplements are important to avoid getting the flu and to ensure a milder case of the flu if one is contracted.

In addition, research is beginning to show that the prophylactic use of adaptogens helps reduce susceptibility to respiratory infections and influenza. In a study of 43 adults 65 and older, participants took 400 mg/day of American ginseng (*Panax quinquefolius*) extract or placebo for 4 months. In the last two months of the study, the frequency and duration of colds was reduced by nearly 50% and symptom duration by more than 50% in the active group.<sup>7</sup> In another study of 323 adults (ages 16–65), American ginseng again reduced the mean number of colds and severity of symptoms.<sup>8</sup> In two randomized trials of elderly individuals living in a long-term-care setting, patients given 400 mg/day of American ginseng suffered less laboratory-confirmed influenza than did the placebo groups even though the trials were relatively short (8 and 12 weeks).<sup>9</sup> A related species of ginseng has also shown benefit: In a randomized, placebo-controlled, double-blind trial, 227 volunteers were treated with an influenza vaccine and placebo or 100 mg of an Asian red ginseng (*Panax ginseng*) extract for 3 months. Colds and flu were highly reduced in the active group (15 vs. 42 cases).<sup>10</sup> Although clinical research on other adaptogens in influenza prevention are not available, it is likely they will have the same ability to strengthen the individual and increase resistance to infection, with California spikenard (*Aralia racemosa*, *A. californica*) having perhaps the greatest affinity for the lungs and patients with influenza among all the traditional adaptogens. See chapter 3 on adaptogens for more details.

Traditionally, tonic-digestive “alternatives” to help maintain optimum digestive function are considered useful preventatives as well. In most traditions, herbs are used to maintain good bowel function as a method of preventing infectious diseases. Although no known

studies exist on sluggish transit time and chronic constipation related to infectious disease incidence, the theoretical association is plausible. There may be an indirect relationship between the volume of resorbed bowel metabolites and the freedom of the body's immune system to respond to external infectious agents. Many herbal systems gave cathartic herbs or enemas to enhance resistance to infection. Our preference is to avoid such drastic measures, and we instead use mild alternatives such as dandelion root (*Taraxacum officinale*) that are more gentle liver stimulants along with adequate fluid and fiber intake for those prone to constipation.

## TREATING EARLY SYMPTOMS

Diaphoretic (also known as sudorific) herbs are a traditional flu treatment in the very early stages of influenza, such as a scratchy throat or slight cough during flu season.<sup>11</sup> These herbs gently raise the body temperature and induce sweating, which appears to have a beneficial effect on the immune system.<sup>12</sup> Diaphoretic herbs have been shown to promote sweating when given cold or given hot, although the hot infusions were the most effective. Traditional herbal diaphoretics of Europe and North America include German chamomile (*Matricaria recutita*)<sup>11</sup> or Roman chamomile (*Chamaemelum nobilis*) flower tea,<sup>13</sup> brittlebush or incienso (*Encelia farinosa*) herb,<sup>14</sup> añil de muerto (*Verbesina encelioides*) herb,<sup>14</sup> yarrow (*Achillea millefolium*) flowering tops,<sup>15</sup> and elder (*Sambucus nigra*) flower tea.<sup>11</sup> Chamomile tea can also be inhaled as a steam, and elder flowers can be used as a bath. These remedies are particularly useful in infants and children as they are palatable and simple. Patients who already have very high fevers generally do not need diaphoretics.

Mucilaginous (demulcent) plants can soothe the mucosal surfaces of the throat, bronchi, and sinuses as well as reduce inflammation and irritation.<sup>11</sup> Marsh mallow (*Althaea officinalis*) root, which is 5–35% mucilage when dried, is an excellent example. To extract the plant's mucilage in a palatable form, a cold infusion (*not* a hot one) is prepared by pouring 8 oz of cool distilled

or spring water over approximately 8 g of finely chopped marsh mallow root, and allowing it to steep, covered, at room temperature for 30 minutes with frequent stirring—four to eight hours with less frequent stirring. The cold infusion is then strained and sipped in 1–2 oz doses throughout the day to soothe an irritable cough or scratchy throat. A fresh batch is prepared daily, to protect against bacteria growing in the rich medium. Marsh mallow syrup is another typical preparation of this herb and is taken in teaspoon doses throughout the day during acute flu and cough symptoms. Other demulcent herbs to consider preparing as cold infusions for patients with influenza include elecampane (*Inula helenium*) and globemallow (*Sphaeralcea* spp.).



**Figure 23–1.** *Encelia farinosa* (brittlebush) habit in flower

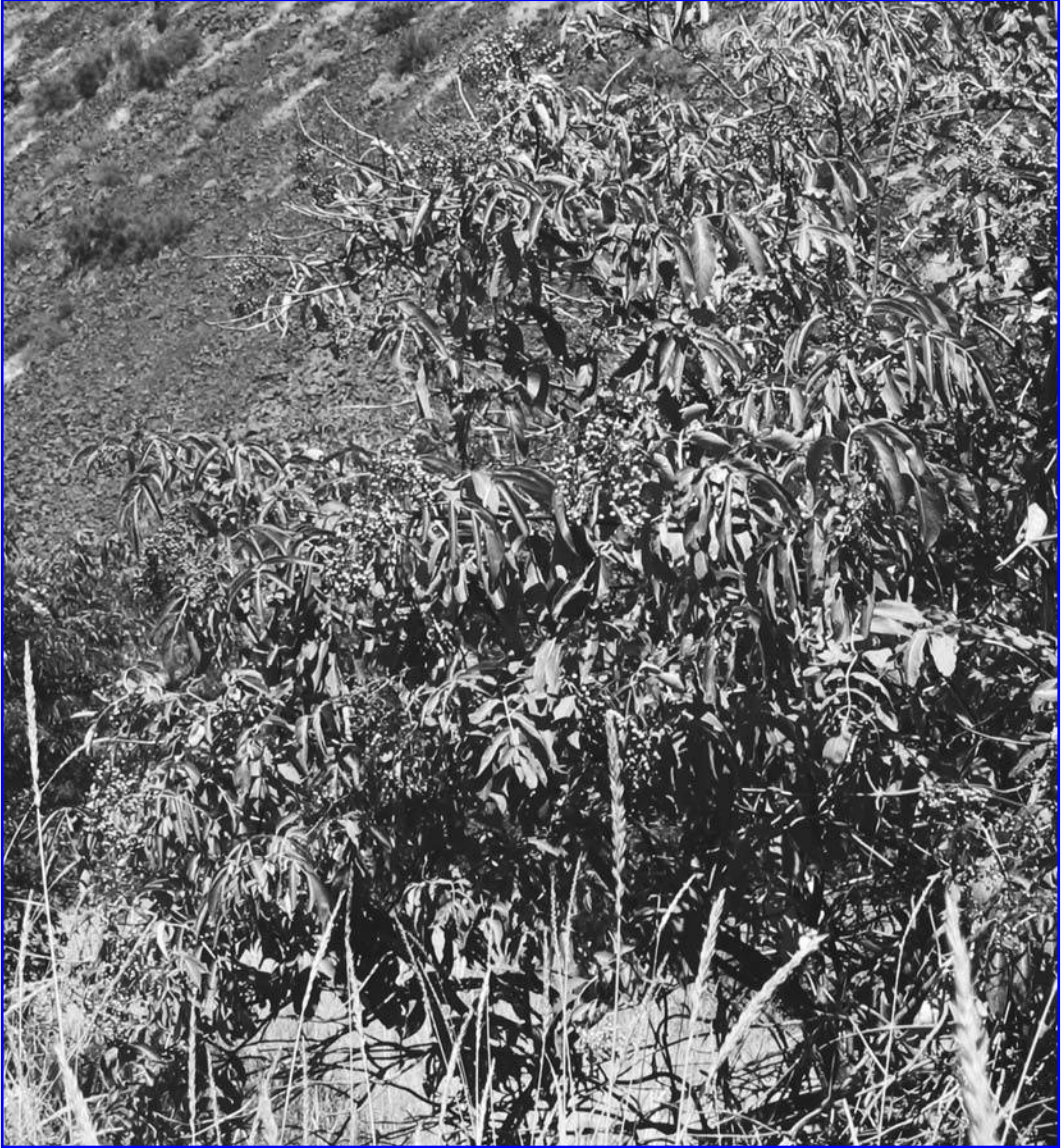


Figure 23–2. *Sambucus cerulea* (blue elder) habit in fruit

## ANTIMICROBIAL PLANTS AND IMMUNOMODULATORS

Herbal tradition includes many infection-fighting plants. Many of these plants are now known to contain various immunomodulating fractions, particularly polysaccharides, as in licorice (*Glycyrrhiza glabra*) root and the popular echinacea (*Echinacea* spp.) roots or seed heads.<sup>16</sup> Both plants can be taken as decoctions of the roots, as herbal tinctures or in combination with other herbs in a formula. Licorice is an underutilized herb in viral infections in Western botanical practice especially in children who typically enjoy its taste. Licorice has not been well

studied in influenza but drew much attention in the deadly sudden acute respiratory syndrome (SARS) epidemic. An herbal formula containing licorice was dispensed to 3,160 at-risk hospital workers during the epidemic. None of those taking the formula contracted the disease compared to 0.4% among those who did not.<sup>17</sup> Another study looked at the antiviral potential of certain constituents against coronavirus from patients with SARS. Glycyrrhizin from licorice was the most active and successful at inhibiting replication of the virus.<sup>18</sup> Licorice, of course, has a long folk history of use to treat coughs and inflamed throats, providing needed symptom relief in influenza.<sup>19</sup>

Echinacea helps aid recovery from flu and colds in many people. In a mouse model of influenza A infection, an extract known as Esberitox (containing *Echinacea purpurea* and *E. pallida* root, *Baptisia tinctoria* root, and *Thuja occidentalis* leaf extracts) significantly prolonged survival compared to placebo.<sup>20</sup> Many of the clinical trials involving various Echinacea species and extracts have been in patients with poorly characterized upper-respiratory-tract infections; many of these easily could have been influenza infections. The latest meta-analysis of these clinical trials concludes that whereas Echinacea can reduce the incidence and duration of upper-respiratory-tract infections, no one extract has been conclusively proven to be the best.<sup>21</sup> Most of the trials assessed in this analysis did not include sufficient testing to rule out influenza infection, though influenza pneumonia was definitely not studied. Though valuable by itself, we add Echinacea to formulae containing other herbs with specific history of long use in influenza. Good choices include lomatium (*Lomatium dissectum*) root, elder (*Sambucus nigra*) fruit, boneset (*Eupatorium perfoliatum*) herb, pleurisy root (*Asclepias tuberosa*) or inmortal (*Asclepias asperula*) root, and, perhaps, wild indigo (*Baptisia tinctoria*) root.



**Figure 23–3.** *Baptisia tinctoria* (wild indigo) flowering stalk

Elder fruit has long been used to treat influenza and clinical trials show that elderberry syrup, a highly palatable remedy, has the ability to reduce the duration and intensity of influenza.<sup>22</sup> Another classic flu remedy is boneset that, while poorly researched, is recommended by past and present herbalists as especially useful in alleviating the myalgia and pain of seasonal influenza. (See chapter 24 on pandemic influenza for a more detailed description.) Lomatium is also poorly researched but was widely used by both Native Americans and Mormon settlers in Utah and Oregon for lung problems, difficult fevers, and pneumonia. A Dr. Krebs reported that a decoction of the root was used successfully as a treatment in the 1918 pandemic.<sup>23</sup> However, Dr. Krebs also noted that a decoction would fail to extract the plant's oils that he considered to be the most active constituents. Lomatium contains many complex constituents and is known to occasionally cause a rash that is deemed not to be allergic in nature.<sup>24</sup> Michael Moore states that the skin reaction can be avoided if loma-

tium is combined with dandelion root.<sup>25</sup> Pleurisy root, as its name suggests, has a long history of use in various pulmonary afflictions. It was widely used by Eclectic physicians during the 1918 pandemic (see chapter 24). Pleurisy root continues to be used for the chest tightness or painful cough of influenza. The root has a diaphoretic action that is useful in fevers. See Tables 23-1 and 23-2.

Many practitioners also include baptisia as a treatment for influenza, usually as part of the Esberitox formula mentioned above. Interestingly, the use of baptisia in the acute phase of influenza runs counter to the Eclectic tradition in which the herb was saved for more “septic” or congested stages of influenza. Thus, it was used as a treatment for influenza-related pneumonia in the 1918 pandemic.<sup>26</sup> Small studies show that Esberitox safely and effectively reduced the duration of upper-respiratory infections in adults.<sup>27</sup> The formula combined with antibiotics in patients with severe bacterial bronchial infections (a condition that the Eclectics would have considered appropriate for treatment with baptisia) led to a faster recovery than antibiotics alone.<sup>28</sup>

**Table 23-1.** Doses of Anti-Influenza Herbs

<i>Herb</i>	<i>Part Used</i>	<i>Dose</i>
<i>Panax quinquefolius</i> (American ginseng)	Root	Tincture, 2–4 ml three times per day
<i>Panax ginseng</i> (Asian ginseng)	Root	Tincture 2–4 ml three times per day
<i>Taraxacum officinale</i> (dandelion)	Root	Tincture, 3–5 ml three times per day; tea, 1 tsp/cup water, sipped 10–15 minutes ac
<i>Glycyrrhiza glabra</i> (licorice)	Root	Tincture, 3–5 ml three times per day
<i>Echinacea</i> spp.	<i>E. purpurea</i> , seed head; <i>E. angustifolia</i> , root	Tincture, 5 ml every hour for first 48 hours, then 5 ml every 3–4 hours
<i>Lomatium dissectum</i>	Root	Tincture, 1–3 ml three times per day
<i>Sambucus nigra</i> (elder)	Fruit	Tincture, 2–5 ml three to four times per day; tea, 1 tsp/cup water, three to four times per day; syrup, 1 tsp four times per day
<i>Eupatorium perfoliatum</i> (boneset)	Flowering tops	Tincture, 1–3 ml three to four times per day
<i>Asclepias tuberosa</i> (pleurisy root)	Root	Tincture, 1–3 ml four times per day
<i>Baptisia tinctoria</i> (wild indigo)	Root	Tincture, 1–2 ml three times per day

**Table 23–2.** Specific Indications of Herbal Remedies According to Michael Moore and the Eclectics

<i>Symptoms</i>	<i>Herbal Remedies</i>
General remedies	<i>Aralia racemosa</i> (California spikenard) root, <i>Lomatium dissectum</i> root
Hot, dry patients who are not secreting (no sweating, dry cough)	<i>Asclepias asperula</i> (inmortál) root, <i>A. tuberosa</i> (pleurisy) root, <i>Capsicum</i> spp. (cayenne) fruit with <i>Lobelia inflata</i> (lobelia) flowering tops
Malaise, body aches	<i>Actaea racemosa</i> (black cohosh) root, <i>Eupatorium perfoliatum</i> (boneset) flowering top
Pleurisy, hacking irritated cough, blood streaks in mucus	
With flushed face, sweating, headache	<i>Bryonia cretica</i> (bryony) root
With lymphadenopathy	<i>Phytolacca americana</i> (poke) root
Wet cough, perspiring, flushed face, acute onset, restless	<i>Gelsemium sempervirens</i> (gelsemium) root
Wet cough, dyspnea	<i>Grindelia</i> spp. (gumweed) flower bud, <i>Ligusticum porteri</i> (oshá) root, <i>Prunus virginiana</i> (wild cherry) bark, <i>Verbascum thapsus</i> (mullein) flower
Wet, persistent cough after influenza	<i>Eriodictyon angustifolia</i> (yerba santa) leaf

Based on Moore M, *Specific Indications for Herbs in General Use* 1994, [www.swsbm.com/ManualsMM/SpecIndic3.txt](http://www.swsbm.com/ManualsMM/SpecIndic3.txt).

## CONCLUSION

Herbal medicines can play a useful role in treatment of patients with seasonal influenza infection. It is necessary for the clinician to choose the appropriate herbal remedies and not get caught in the trap of mindlessly prescribing the same treatments to every patient as though they were all identical. Rest and ample intake of water will generally serve all patients, but individualized herbal prescriptions chosen from those herbs discussed above will yield the best results. Patients should not expect perfect protection or an absolute cessation of symptoms, but instead reduced risk, symptom reduction, and quicker recovery than otherwise. The goal is to use herbs to provide a balance of improved health with minimal adverse effects. See Sidebars 23-1 and 23-2.

### **23–1. Dr. Mitchell's Knockout Antiviral Tea**

The late Dr. William Mitchell, naturopathic physician and a cofounder of Bastyr University in Kenmore, Washington, recommended a flu tea discussed below. This is a diaphoretic, antimicrobial, astringent, demulcent tea to be taken three times daily or more.

(continued)

**23–1. Dr Mitchell's Knockout Antiviral Tea (continued)**

Cinnamon bark sticks ( <i>Cinnamomum</i> spp.), 2–3	Cardamon seeds ( <i>Elletaria cardamomum</i> ), 1 tbsp (optional)
Ginger root slices ( <i>Zingiber officinale</i> ), 4–5	

Add the above ingredients to 4 cups of water or more. Bring to a boil, then simmer for 20 minutes, covered. Remove from heat.

Add the juice of half of a fresh-squeezed lemon. Add honey to taste.

Drink 1 cup three times a day for a maximum of seven days during a bout of flu.

**23–2. A German Diaphoretic Tea**

Elder flowers ( <i>Sambucus nigra</i> ), 1 tsp	German chamomile flowers ( <i>Matricaria recutita</i> ), 1 tsp
Lime flowers ( <i>Tilia cordata</i> ), 1 tsp	

Add the above ingredients to 1 pint of boiling water. Remove from heat. Cover and allow to steep 10 minutes. Drink immediately.

Drink 1 cup three to five times a day for up to 10 days during a bout of flu.

---

Recipe from Rudolf Fritz Weiss, MD, of Germany.

**REFERENCES**

<sup>1</sup>Lowen AC, Mubareka S, Steel J, et al. Influenza virus transmission is dependent on relative humidity and temperature. *PloS Pathogens* 2007;3(10):e151.

<sup>2</sup>Julkunen I, Melen K, Nyquist M, et al. Inflammatory responses in influenza A virus infection. *Vaccine* 2001;19:S32–S37.

<sup>3</sup>Monto AS, Gravenstein S, Elliott M, et al. Clinical signs and symptoms predicting influenza infection. *Arch Intern Med* 2000;160:3243–3247.

<sup>4</sup>Kaiser L, Fritz RS, Strause SE. Symptom pathogenesis during acute influenza. *J Med Virol* 2001;64:262–268.

<sup>5</sup>Ahsan, M, Chowdhury, AKA, Islam, SN, et al. Garlic extract and allicin: Broad spectrum antibacterial agents effective against multiple drug-resistant strains of *Shigella dysenteriae* type 1 and *Shigella flexneri*, enterotoxigenic *Escherichia coli*, and *Vibrio cholerae*. *Phytother Res* 1996;10:329–331.

<sup>6</sup>Friel H, Lederman H. A nutritional supplement formula for influenza A (H5N1) infection in humans. *Med Hypotheses* 2006;67:578–587.

<sup>7</sup>McElhaney JE, Goel V, Toane B, et al. Efficacy of COLD-fX in the prevention of respiratory symptoms in community-dwelling adults: A randomized, double-blind, placebo-controlled trial. *J Alt Comp Med* 2006; 12(2):153–157.

<sup>8</sup>Predy GN, Goel V, Lovlin R, et al. Efficacy of an extract of North American ginseng containing poly-furanosyl-pyranosyl-saccharides for preventing upper-respiratory-tract infection: A randomized controlled trial. *Can Med Assoc J* 2005;173(9):1043–1048.

<sup>9</sup>McElhaney JE, Gravenstein S, Cole SK, et al. A placebo-controlled trial of a proprietary extract of North American ginseng (CVT-E002) to prevent acute respiratory illness in institutionalized older adults. *J Am Geriatrics Soc* 2004;52(1):13–19.



- <sup>10</sup>Block KI, Mead MN. Immune system effects of echinacea, ginseng, and astragalus: A review. *Integrative Cancer Ther* 2003;2(3):247–267.
- <sup>11</sup>Weiss, RF. *Herbal Medicine*. Gothenberg, Sweden:Ab Arcanum and Beaconsfield, UK:Beaconsfield Publishers, trans. Meuss, AR 1985.
- <sup>12</sup>Pomeroy K, Roberts N, Fever. In Pizzorno JE, Murray, M. (eds.) *A Textbook of Natural Medicine*. Vol. 1, Seattle, WA:Bastyr University Publications 1988, IV:Fever.
- <sup>13</sup>Bradley, P. ed. *British Herbal Compendium, Vol. 1*. Dorset, UK: British Herbal Medicine Association 1992.
- <sup>14</sup>Moore M. *Medicinal Plants of the Desert and Canyon West*. Santa Fe:Museum of New Mexico Press 1989.
- <sup>15</sup>Treben, M. *Health from God's Garden*. Thorsons Publishers 1987.
- <sup>16</sup>Melchart D, Linde K, et al. Immunomodulation with Echinacea—a systematic review of controlled clinical trials. *Phytomed* 1994;1:245–254.
- <sup>17</sup>Lau TF, Leung PC, Wong ELY, et al. Using herbal medicine as a means of prevention experience during the SARS crisis. *Am J Chin Med* 2005;33(3):345–356.
- <sup>18</sup>Cinatl J, Morgenstern B, Bauer G, et al. Glycyrrhizin, an active component of licorice roots, and replication of associated coronavirus. *Lancet* 2003;361(9374):2045–2046.
- <sup>19</sup>Wynn SG, Fougere BJ. *Veterinary Herbal Medicine*. St. Louis, MO:Mosby Elsevier 2007.
- <sup>20</sup>Bodinet C, Mentel R, Wegner U, et al. Effect of oral application of an immunomodulating plant extract on influenza virus type A infection in mice. *Planta Med* 2002;68(10):896–900.
- <sup>21</sup>Shah SA, Sander S, White CM, et al. Evaluation of echinacea for the prevention and treatment of the common cold: A meta-analysis. *Lancet Infect Dis* 2007;7(7):473–480.
- <sup>22</sup>Zakay-Rones Z, Thom E, Wollan T, et al. Randomized study of the efficacy and safety of oral elderberry extract in the treatment of influenza A and B virus infections. *J International Med Res* 2004;32(2):132–140.
- <sup>23</sup>*Bulletin of the Nevada State Board of Health, No. 1*, Carson City, NV, January, 1920 full text available at [www.lomatium.com/history.htm](http://www.lomatium.com/history.htm), Accessed January 2008.
- <sup>24</sup>Alstet E. *Lomatium dissectum* and fresh corn silk. NHAA International Conference 1995:116–125.
- <sup>25</sup>Personal communication with Michael Moore, 1998.
- <sup>26</sup>Abascal K. *Herbs & Influenza: How Herbs Used in the 1918 Flu Pandemic Can Be Effective Today*. Vashon, WA:Tigana Press 2006.
- <sup>27</sup>Naser B, Lund B, Henneicke-von Zepelin HH, et al. A randomized, double-blind, placebo-controlled, clinical dose–response trial of an extract of baptisia, echinacea, and thuja for patients with common cold. *Phytomed* 2005;12:715–722.
- <sup>28</sup>Hauke W, Kohler G, Henneicke-von Zepelin HH, et al. Esberitox N as a supportive therapy when providing standard antibiotic treatment in subjects with a severe bacterial infection (acute exacerbation of chronic bronchitis): A multicentric, prospective, double-blind, placebo-controlled study. *Chemother* 2002;48:259–266.