

Ashwagandha: Wonder Herb of India

By Dr. Michael Tierra

There is an herb regarded as a 1st class adaptogenic tonic in one of the world's greatest herbal medical systems, an herb which can compare favorably to the world's most renowned herbal tonics such as ginseng (*Panax ginseng*), astragalus (*Astragalus membranaceus*), dang gui (*Angelica sinensis*), reishi mushroom (*Ganoderma lucidum*) and South American suma (*Pfaffia paniculata*) and like these has been held in high regard by generations of people over the course of millennia for its ability to increase vitality, energy, endurance and stamina, promote longevity and strengthen the immune system without stimulating the body's reserves. In fact having the ability to nurture the nervous system, counteract anxiety and stress to promote a calm state of mind. This same herb, having powerful anti-inflammatory properties, is specific for treating arthritic and rheumatic conditions. As if all of this were not enough, it is easily the most potent tonic aphrodisiac in the entire botanical kingdom. With all of these uses, *Withania somnifera*, better known in India as ashwagandha, is destined to rise significantly and take its place with all the other better known tonics.

In 1978, as part of a tour to India, I had the opportunity to live in a small South Indian village outside of Bangalor, for three weeks. One day my gracious host and I were walking at sunset along the dirt road adjacent to a cultivated field of rice, and knowing my interest in native Indian herbs and the ancient traditional system of medicine called Ayurveda, he casually pointed out a few non-descript plants growing on the border of a rice field as Ashwagandha. I was very excited to see this remarkable plant which I had only recently studied in various books in the United States. I made my way walking along the drier border of the rice field and picked several of the seed laden red berries to bring back to my residence and herb school in Santa Cruz, called the Garden of Sanjivani.

It was early in my career and I was so linked with my identity as an herbalist that I often mused whether I could serve as an herb doctor in a country where the native plants were unfamiliar. So far, in the village where I stayed, ashwagandha and the neem tree were the only native herbs I knew. Notwithstanding this fact, many local villagers, wanting to meet their esteemed visitor from America, hearing that I was involved in healing, came to the abode where I was staying seeking advice for a wide variety of problems. Fortunately, most of these were of a chronic type associated with aging and it just so happened that the single native herb to which I was recently introduced, ashwagandha, was perfect.

One of the important lessons I was to learn from this experience was that being an herb doctor meant more than a knowledge of a particular set of familiar herbs. It also included the ability to 'think like an herbalist' to be ever vigilant and watchful for the gifts that nature abundantly provides everywhere in the form of both botanicals as well as the local knowledge and wisdom of the use of plants.

One man in his early 80's came complaining of chronic pain in his lower back and elbow. I directed him to my new found patch of ashwagandha and he sent one of his sons out to dig some roots for him to make tea. Three days later, he came to thank me since he had already showed considerable improvement. Another young child was suffering from a severe adverse reaction to a recent polio vaccine. The arm that had been injected with the vaccine only a few months previous hung limp and malformed from lack of proper maturation. The villagers commented that every time the local medical core visited their village to administer vaccinations, there were always a few such casualties. I remember thinking how in a more alienated society such as the Western world, such things may also happen, but our neighbors have no opportunity to witness such reactions because our lives are so separate compared to that of a South Indian village. Once again, ashwagandha was the perfect herb to give for non-inflammatory childhood mal-development.

A young boy around the age of 14 was brought to me with chronic bronchitis. After taking ashwagandha for only a week, he was completely cured. I must confess that I was a little trepidatious of becoming known as the "one herb doctor from America". Since no one else seemed to care and everyone was getting such positive results from ashwagandha. I took consolation in the famous axiom of the late Dr. Christopher, "it is better to know one herb well, than a smattering of many".

During my stay, I had the opportunity to prescribe ashwagandha for a wide variety of conditions ranging from male impotence, for which *Withania* is a near specific, to chronic vaginal discharge. For

many of these I was not there long enough to directly observe the results, but I was later told that everyone to whom I had recommended the herb had either experienced significant improvement or in more had completely recovered from their chronic condition.

Interestingly, the people took no notice of the fact that I was recommending the same herb to everyone. In fact, it was a local herb with which they were all very familiar. It's a curious thing that I had observed when living in proximity with the Karok Indians of Northern California that some native people, having recently fallen under the seduction of Western ways including Western medicine, actually appreciated being reminded, especially from a representative of much envied and powerful country such as the US, of the powerful yet much safer effects of their native medicine. Placebo effect notwithstanding, it seemed that the fact that I recommend it seemed to make it all the more powerful and effective in their eyes.

Three months later I returned to the Garden of Sanjivani in Santa Cruz and planted my ashwagandha seeds. I was amazed at how easily they germinated and continue to re-seed themselves year after year in the area bordering the San Lorenzo river, long after I had moved away. Despite this, one need not be concerned about its becoming an invasive pest. Since it is as easy to control as another more famous Solanaceae representative, the tomato to which it is closely related.

Over the years I have noticed how herbs with more complex, seemingly opposite properties, such as ashwagandha, are generally the strongest and most useful. Unlike many tonics, Ashwagandha is also anti-inflammatory, anti-arthritic, anti-anxiety calmative and aphrodisiac. To herbalists, this seems strange since it is also a member of a family of plants that include the familiar belladonna and henbane, also well respected anti-inflammatory nervines but toxic not particularly known for their nutritional tonic properties. This certainly qualifies ashwagandha as one of the most paradoxical herbs. Perhaps it is for this reason that so far it has not yet established itself with the equal esteem of the other more well known tonics mentioned above.

There is still one other highly significant and practical fact about ashwagandha. Most tonics like ginseng, require special growing conditions and several years to develop their tonic properties (ginseng requires 7 years). Ashwagandha is unique as a tonic herb in that it is exceptionally easy to cultivate and is ready for harvest after only one year of growth. This represents a very real consideration that if ashwagandha were used more, would relieve some of the threat of extinction from the wild of other highly popular herbs such as wild ginseng (*Panax quinquefolium*), golden seal (*Hydrastis canadensis*), suma (*Pfaffia paniculata*) and lady's slipper (*Cypripedium pubescens*) for instance. This is not to say that any tonic can be substituted for each other, but too often, because of excessive commercial promotion, people are induced to overuse and just as often, misuse certain endangered herbs for purposes that another more common herb may be even more effective.

The unique properties of ashwagandha [1] <<http://www.planetherbs.com/articles/ashwagandha.htm>>, while being an energy tonic like ginseng or codonopsis for instance, is uniquely more beneficial for calming the mind, relieving arthritis and building sexual energy while ginseng and codonopsis (*Codonopsis pilosula* also known as "bastard ginseng" because it is an acceptable milder substitute) is more specifically effective for low energy caused by digestive weakness. Astragalus, classified as another Qi or energy tonic in Traditional Chinese Medicine (TCM), is stronger as an immune tonic. Again, these properties are equally shared by ginseng, codonopsis and ashwagandha, but more indirectly because of their effects on other physiological systems. Ashwagandha is also useful for strengthening the female reproductive system for which it is commonly combined with another Ayurvedic herb called shatavari (*Asparagus racemosa*) but the Chinese herb, dang gui (*Angelica sinensis* and *A. acutiloba*), renowned as a blood tonic, is especially beneficial in gynecology for deficient blood conditions, anemia and irregular menstruation. The uniqueness of Ashwagandha is that it achieves its results through strengthening the nervous system and potentiate reproductive hormones.

Also known in English as winter cherry, Ashwagandha is one of the most highly valuable herb in the Ayurvedic medical system. On another trip to India I met with several Ayurvedic doctors and heads of prominent Ayurvedic pharmacies. I decided to ask them the kind of inane [2] <<http://www.planetherbs.com/articles/ashwagandha.htm>> question that I am often asked, "what do you think is the most valuable Ayurvedic herb?" There was an unequivocal answer that ashwagandha was

at least equally regarded in Ayurvedic medicine as ginseng is in TCM.

In order to appreciate the traditional uses and properties of ashwagandha it is necessary to offer a brief description of the Ayurvedic system of medicine. Ayurveda, translated as Science of Health, is probably the oldest existing system of natural healing in the world. Dating back over many millennia, it is likely to be even older than Traditional Chinese Medicine (TCM) and may be its origin, as it certainly is the origin of Tibetan medicine, Middle Eastern Tibb medicine and our own ancient Greco-Roman medicine. Nearly suppressed by the English during their occupation of India through the 19th and first part of the 20th centuries, Ayurveda is finally making significant inroads of acceptability throughout all countries of the Western world.

Ayurveda is based on a system of Tridosha or Three Humours which classifies all Dating back over many millennia, it may go back even further in antiquity than TCM and is certainly the basis for Traditional Tibetan Medicine [3] <<http://www.planetherbs.com/articles/ashwagandha.htm>>, Middle Eastern Tibb or Unani medicine which form the basis for much of ancient Greco-Roman medicine [4] <<http://www.planetherbs.com/articles/ashwagandha.htm>>. Nearly suppressed in India by the occupying English during the 19th and early 20th centuries, Ayurveda is gaining in popularity throughout many Western countries.

Ayurveda is based on a system of Tridosha or Three Humours which classifies all individual constitutions of people, diseases, herbs and other non-herbal remedies and therapies according to whether they are Vata (air or nerve oriented), Kapha (water or mucoid type) or Pitta (fire type) [5] <<http://www.planetherbs.com/articles/ashwagandha.htm>>. Herbs that have pungent, sour and salty flavors stimulate fire; herbs that are astringent (drying) and bitter stimulate vata-air, or the nerve centered humour; herbs that are sweet, salty and sour stimulate or increase Kapha-water, or the mucoid humour. In contrast, herbs that are sweet, sour and salty flavored ameliorate Vata-air, which means that they have a particular affinity for the nervous system. Herbs that are astringent, sweet and bitter ameliorate Pitta-fire, meaning that they are soothing and anti-inflammatory. Finally herbs that are pungent, bitter and astringent ameliorate Kapha-water, which means they tend to increase digestive fire, expel and dry excessive fluid build up in the system, including clearing excessive fat from the body, and the accumulation of cholesterol and other fatty deposits in the veins and arteries of the body.

Because the primary quality and flavor of ashwagandha is sharp and pungent, this indicates that it is warming, raises metabolism, stimulates digestion, clears mucus, improves circulation. Unlike TCM, Ayurvedic also identifies a secondary post-digestive flavor, which for ashwagandha is sweet. It is this effect, which is not necessarily directly identified by one's sense of taste, that occurs when a substance is converted into a still purer nutritive extract [6] <<http://www.planetherbs.com/articles/ashwagandha.htm>>. Following this, the post digestive sweet flavor of ashwagandha represents its deep nutritive, hormonal properties as well as its ability to strengthen and nourish the nervous system.

An even deeper and more profound transformation of food occurs after 7 days. This is when food is transformed into blood. Only after a month does the most refined essence of food transform into semen. It is at this deepest level that ashwagandha exhibits its profound aphrodisiac properties.

In the TCM system, ashwagandha would be used as a Kidney Yang tonic because of its warming, aphrodisiac properties. In this, it is deeper acting than other herbs, such as the African yohimbe, the South America muira puama or the milder Central American damiana. One may have to take ashwagandha longer, at least a month, to notice its aphrodisiac effects.

The distinctive earthy odor and flavor of ashwagandha is due to the presence of certain steroidal lactones or Withanolides [7] <<http://www.planetherbs.com/articles/ashwagandha.htm>>. It is from this characteristic odor which its Sanskrit name, "like a horse", derives. While the largest majority of medicinal herbs are not particularly prized or known for their appealing flavor, ashwagandha for most may be promoted to the forefront of those herbs with the least taste-smell appeal. Fortunately, it is possible to formulate ashwagandha into pills, capsules and alcoholic extracts to create greater public acceptance.

Traditionally, herbs are classified organoleptically according to their smell, flavor, texture, shape and

even their color [8] <http://www.planetherbs.com/articles/ashwagandha.htm>. This has been the traditional way for herbalists in older times to come to a recognition of the unique biochemistry and therapeutic actions of plants. It is only in recent times that this is being replaced by complex laboratory analysis. The post digestive flavor of Ashwagandha is not so much sensorially identified, but because it exhibits tonic nutritive properties. The classification of herbs, foods and substances into the category of flavors, may not always be based on individual sensory experiences but also according to function.

Different people will have different reactions but for most, at first the reaction to taking ashwagandha even after a few days is a sense of increased warmth and more energy. As stated, eventually this further transmutes to heightened libido. For this reason, tonics like ashwagandha or ginseng are seldom prescribed to otherwise normal and relatively healthy adolescents or for that matter, otherwise normal individuals under the age of 40 years. Given specific signs and indications of chronic weakness and deficiency, ashwagandha is, however, specifically indicated for individuals of all ages. For such conditions, it is best to take ashwagandha in powder or alcoholic extract with warm scalded milk and honey.

So why is it that more people do not know or use ashwagandha? Mainly because it has not yet permeated the arena of the largely fad-driven natural supplements industry of the West. An important second reason is that many, including most Western herbalists, as yet do not fully understand and appreciate the many diametrically opposed and therefore, confusing therapeutic properties of this valuable herb. Supplements become best sellers when the industry can latch onto one specific attribute of a particular substance to popularize. This, unfortunately, has happened to many herbs such as Feverfew and St. Johnswort (*Hypericum perforatum*), both herbs having more extensive therapeutic properties than that for which they have become popularly known.

The issue of herbal marketing poses some further serious reservations among herbalists, not only because it can create a demand for a particular herb that can threaten its survival, as in the case of wild golden seal (*Hydrastis canadensis*), American ginseng (*Panax quinquefolium*), osha (*Ligusticum porteri*) and ladies slipper (*Cypripedium pubescens*), but also because of the way to create concentrated extracts to heighten certain drug-like effects. This has certainly been true of Chinese ephedra also known as Ma Huang which has epinephrine and pseudo-epinephrine alkaloids that are very similar to adrenaline. Ma Huang is traditionally one of the best herbs for treating asthma. However, by overly concentrating its herbal constituents, it is more drug-like with properties similar to meth-amphetamine, and it is in that form that it is abused in the popular herb market place included as a stimulant in herbal pep pills, diet formulas and even in pseudo-mind altering formulas. When prepared in this way, Ma Huang can be more of a health risk than a benefit. As a result of incidents implicating it as the cause of certain adverse reactions, the popular availability of the herb may be threatened as a result of stepped up legal restrictions.

Given the sensational tendency of marketeering, the aphrodisiac effects of ashwagandha may take precedence over all its other outstanding properties. Ashwagandha should be considered as the premiere herb for all negative conditions associated with aging [9] <http://www.planetherbs.com/articles/ashwagandha.htm>. This includes its use for the prevention and inhibition of senile dementia and Alzheimer's Disease [10] <http://www.planetherbs.com/articles/ashwagandha.htm>, low energy and arthritis [11] <http://www.planetherbs.com/articles/ashwagandha.htm>.

The other important properties of ashwagandha includes its traditional use as an alterative for detoxification, anti-inflammatory, antiseptic, antitussive (alleviating coughs), bitter (in small doses, stimulating appetite), sedative and as an overall rejuvenative.

Ashwagandha is specific for a wide range of conditions including arthritic inflammation, anxiety, insomnia, respiratory disorders including emphysema, asthma bronchitis and coughs, nervous disorders, gynecological disorders, especially functional female and male infertility and impotence. From this it would seem that ashwagandha should be considered for all immuno-compromised diseases including TB and AIDS, chronic upper respiratory diseases, degenerative symptoms attendant to aging, juvenile mal-development and growth, chronic neurological diseases especially anxiety, nervousness, depression and insomnia, weak digestion, fluid retention caused by lowered body metabolism and last but certainly not least, for low sexual libido.

Other Species and Parts of the Herb that are Used

So far, all discussion is about the use of the root which possesses the most valued tonic properties. However, the bitter leaves are used as a hypnotic in the treatment of alcoholism and to relax the spasms of the lungs for the treatment of asthma and emphysema. They can also be made into an anti-inflammatory poultice and topically applied for boils and carbuncles. Internally, as with so many other strongly bitter herbs, they are anthelmintic (clearing worms). The seeds of the fruits are diuretic and can be used as a substitute for rennet to curdle milk.

Ashwagandha Coagulans, a related species and occasional adulterant, primarily uses the inside kernel of the seed capsule containing "withanin" which is similar to rennet to curdle milk. "About a tablespoon of the mixture of seeds with a little milk (1 in 40) is enough to coagulate a gallon of milk in approximately a half an hour." [12] <http://www.planetherbs.com/articles/ashwagandha.htm> Alcohol will destroy the coagulating principle but the dried capsules can be used. A. coagulans is also therapeutically used as an alterative and emetic.

History, Description and Pharmacology

The use of ashwagandha in Ayurvedic medicine extends back over 3000 to 4000 years to the teachings of an esteemed rishi (sage) Punarvasu Atriya [13] <http://www.planetherbs.com/articles/ashwagandha.htm>. It has been described in the sacred texts of Ayurveda, including the Charaka and Sushruta Samhitas where it is widely extolled as a tonic especially for emaciation in people of all ages including babies, enhancing the reproductive function of both men and women. It has also been used for inflammations especially for arthritic and rheumatic conditions and as a major tonic to counteract the ravages of aging and promote youthful longevity. Some of its other traditional uses have been as a mild purgative for chronic constipation and for the treatment of swollen glands.

Ashwagandha is a small woody shrub or herb in the Solanaceae family that grows usually about 2 feet in height and is naturally found in diverse areas ranging from Africa, the Mediterranean and East into India. Because of its wide range, there is considerable morphological and chemotypical variations in terms of local species. Considering its powerful healing properties, except for the bright red fruit, it is a fairly plain, nondescript plant. The fruit is harvested in the late fall and the bright yellow seeds are dried for planting in the following spring. The cultivated Nagori species of Ashwagandha seems to be significantly larger, one source describing it as a shrub growing from 5 to 7 feet tall. However, the primary alkaloids of both the wild as well as the cultivated species are the same.

The commercial supplies of ashwagandha are obtained from both wild and commercial sources. The fresh root of one year old plants are harvested from January to March. It is either dried whole or cut in short transverse pieces and dried directly in the sun. Quality is determined by the size of the main tap root as well as its color, odor and flavor.

The major biochemical constituents of ashwagandha from which its primary medicinal properties emanate, are based upon the actions of certain steroidal alkaloids and steroidal lactones in a class of constituents called withanolides [14] <http://www.planetherbs.com/articles/ashwagandha.htm>. These serve as important hormone precursors which the body is then able, as needed, to convert into human physiological hormones. If there is an excess of a certain hormone, the plant based hormone precursors occupy the so-called hormone receptor sites, without converting to human hormones, to block absorption. In this way, ashwagandha, like other adaptogenic tonic herbs, is amphoteretic and can serve to regulate important physiological processes, increasing or decreasing as needed.

The term adaptogen was first defined by the Russians [15] <http://www.planetherbs.com/articles/ashwagandha.htm> as a result of their extensive research on the tonic, Siberian Ginseng (*Eleutherococcus senticosus*). The definition of adaptogen is based on the following, according to Brekhman: 1). Safety of the adaptogen's action on the organism; 2). A wide range of regulatory activity, but manifesting its action only against the actual challenge to the system; 3). Act through a nonspecific mechanism to increase the nonspecific resistance (NSR) to harmful influences of an extremely wide spectrum of physical, chemical and biological factors causing stress; 4). Has a normalizing action irrespective of the direction of foregoing pathological changes.

An adaptogenic herb of which ashwagandha would be a first rate example [16] <http://www.planetherbs.com/articles/ashwagandha.htm>, allows one to adapt to a variety of is a class of herbs that allows one to adapt to a variety of heightened stressful circumstances. This will result in heightened stamina and endurance for athletic competition, the workplace and conditions of inclement environment and weather conditions.

With its ease of cultivation, there is hardly a reason that most people and certainly old age nursing homes does not have its own garden patch of ashwagandha as a hedge, so to speak, against the ravages of aging decrepitude. Given the fact that for better or worse, more people are living longer in the world than any other time in its history, trying to save enough money in long term retirement accounts for a comfortable old age and at the same time sensing real concerns at the thought of dwindling governmental entitlement benefits, it seems imperative that everyone grow their personal supply of ashwagandha and learn how to prepare and take it.

Besides over 3000 years of empirical experience, numerous studies on both animals and humans have attested to the anti-arthritis and mind calming properties of crude preparations of the herb. The combined alkaloids seem to exhibit calming, anti-convulsant and antispasmodic properties against many spasmogenic agents on the intestinal, uterine, bronchial, tracheal and blood-vascular muscles. It is described as similar but considerably weaker than papaverine and phenobarbitone [17] <http://www.planetherbs.com/articles/ashwagandha.htm>. Other constituents, namely the saponins enhance pathogenic devouring phagocytes. Even anti-tumor properties have been found based on the use of the crude extract on mice both in living specimens as well as against cancer cells in the petri dish.

PREPARATIONS:

Ashwagandha is used in Ayurvedic medicine as a powder, decoction, medicated wine, mixed with clarified butter, combined with honey or sugar syrup or as a medicated oil. The most common form is as an alcoholic extract or capsules, of the powdered root.

Dosage is as follows:

Powder:	3-6 grams daily or up to 5 to 10 grams as an occasional tonic
Decoction:	16 to 31 grams added to heated cow's milk
Alcoholic Extract:	2 Tblsp., 2-4 times daily.
Mixed with ghee or honey:	1 tsp. 2 times daily
Narayana Taila Oil:	Internally, 3-10 drops; or freely applied externally to painful, arthritic joints.

Contraindications and Toxicity:

Large doses of ashwagandha may possess abortifacient properties so that it should not be taken during pregnancy unless under the direction of an experienced health professional. It is also contraindicated in conjunction with sedatives or anxiolytics (a substance that reduces anxiety) or if one is suffering from stomach ulcers. Traditionally, like other tonics such as ginseng, ashwagandha should not be taken when there are signs of inflammation or advanced arterial congestion. For this reason it may be best to precede or accompany taking it with a general detoxifying herb or formula such as Yogaraj guggul.

Ashwagandha is relatively safe when taken in the prescribed range of dosage. [18] <http://www.planetherbs.com/articles/ashwagandha.htm> Large doses, however, have been shown to cause gastrointestinal upset, diarrhea and vomiting. Finally, because ashwagandha has been found to potentiate the effects of barbiturates, it is generally recommended that it be not taken under such conditions.

Ashwagandha according to the TCM model:

Because of its actions and flavors, ashwagandha would be classified as a Yang tonic with particular affinity for the Kidneys, because of its hormonal action, and the Heart, because of its ability to calm the mind and relieve anxiety and insomnia. As an anti-arthritis and antispasmodic, it has wind dispelling properties. Ashwaganda is used by herbalist Alan Tillotson and his Chinese herbalist wife, Naixin, for cases where ginseng is too stimulating or hot and the patient appears nervous and fragile. For fatigue caused by overwork without nervousness, he prefers to use Siberian ginseng.

Some Traditional and Non-Traditional Ayurvedic Combinations Using Ashwagandha are as Follows:

General Use: The root is taken in 30 gram dosage for general debility, consumption, mal-nourishment in children, senile debility, rheumatic and arthritic conditions, nervous exhaustion, fatigue, brain-gag, memory weakness, senile dementia, muscular weakness, spermatorrhea and leucorrhoea. Normally this can be taken as a powder 10 grams three times daily mixed with warm milk or water, or as a one to 5 alcoholic extract, one or two tablespoonsful three times daily.

For insomnia, ashwagandha can be mixed with valerian root and oyster shell.

As a general nerve tonic, especially for hypoglycemia or low blood pressure, ashwagandha is combined with Gokshura.

For chronic fatigue ashwagandha is combined with another great Ayurvedic tonic herb, shatavari (*Asparagus racemosus*), licorice, amla (*Emblica myrobalan*) and multi-minerals, especially calcium and magnesium. If there is mild inflammation or low grade fevers Dr. Mana, a prominent Nepalese Ayurvedic doctor gives a separate formula to reduce inflammation along with the ashwagandha preparation.

For impotence it can be used alone or combined with fried Cow-hage seeds. The method is to remove the inside of the seeds and mix this with ashwagandha and ginger.

For weak lungs, ashwagandha is combined with *Sida cordifolia* (Bala).

Milk, to stimulate production: combine with equal parts *Dioscorea batatas* (also available as Shan Yao, a Chinese herb) and licorice and make a decoction of 30 grams of the mixture. Take three times daily.

Nerve tonic: combine with Gokshura (*Hygrophila spinosa*) equal parts. This is especially good for hypoglycemia and low blood pressure.

Nutrition of malnourished children, Improving: Make a paste of the root with ghee and milk. Administer three times daily.

Skin diseases: Make a salve of ashwagandha or mix the powder with sesame oil and apply topically.

Sterility, Female: Boil a decoction of 30 grams in water down to half a cup, add mild and one tablespoon of ghee (clarified butter) and a teaspoon of honey. Take three times daily for two weeks after menstruation.

Ashwagandha is available from [Planetary Formulas Online Store](http://www.planetherbs.com/formulas/search.asp) <http://www.planetherbs.com/formulas/search.asp>. For further information about Michael Tierra's East West School of Herbology please visit our website: <http://www.planetherbs.com/>.

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[2] <<http://www.planetherbs.com/articles/ashwagandha.htm>>"inane" because the most valuable herb is always the one that will be the most effective.

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[7] <<http://www.planetherbs.com/articles/ashwagandha.htm>>Bhatnagar et al., 1976 also Schwarting et

al., 1963)

[8] <<http://www.planetherbs.com/articles/ashwagandha.htm>>Tierra, M., Planetary Herbology, 1988: 3-34; also Frawley, D., Lad, V., The Yoga of Herbs. Santa Fe: Lotus Press; 1986:28-35)

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[13] <<http://www.planetherbs.com/articles/ashwagandha.htm>>Upton, R. et. al, American Herbal Pharmacopoeia, 1996 (unpublished to date)

[14] <<http://www.planetherbs.com/articles/ashwagandha.htm>>Schwartzing, 1963

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[16] <<http://www.planetherbs.com/articles/ashwagandha.htm>>Badmaev, M.D., Ph.D, Majeed, Muhammed, Ph.D., Ayurvedic Adaptogens and "Bioprotectants", ?

[17] <<http://www.planetherbs.com/articles/ashwagandha.htm>>(Bhatnagar, 1976; Ral et al., 1983)

[18] <<http://www.planetherbs.com/articles/ashwagandha.htm>>When the entire plant was administered to mice as 25% of the diet, microscopic lesions were found in various organs including the liver and lungs along with vascular congestion and tubular congestion of the kidneys. Considering the widely recognized benefits of taking the herb, and that tonic dosage levels are not really comparable to its experimental administration to animals, it should be considered generally safe, especially when taken with other herbs (arseculaeatne, 1985)