

GEORGE L. REDMON, Ph.D.N.D.

558 Loch Lomond Drive • Sicklerville, NJ 08081 • (H)856-522-6331 • (O)856-419-9066

## **Renovate Revitalize and Restore Yourself With Medicinal Herbs!**

*Many athletes use traditional herbs for special or general effects as well as new derivatives of plant substances that deliver a powerful array of performance benefits.*

**Dr. Frederick C. Hatfield**

### **The Herbal Medicine and Recovery Chest**

**Boswellia Serrata** – Having been researched extensively in India and also known as *Indian Frankincense*, Boswellia has been used for not one or two but for hundreds of years to treat arthritis. Recently researchers at *Gandhi Medical College* in Nagpur, India, in a randomized double blind placebo controlled study reported that after 8 weeks patients receiving Boswellia had decreased knee pain, improved knee flexion and greater walking distances accompanied with less swelling and inflammation. Studies indicate that Boswellia serrata regulates the pain response by *inhibiting 5-lipoxygenase activity*, a major enzyme involved in heightening the physical and mental trauma associated with pain and inflammation. Equally, a recent study appearing in *Clinical Pharmacokinetics* researchers concluded that Boswellia Serrata is a viable alternative to NSAID's ( non-steroidal anti-inflammatory drugs ).

**Suggested dose:** 150 mg daily.

**Ciwujia** (*ginseng*) – Utilized for over 7000 thousand years by traditional Chinese medical practitioners to combat fatigue and improve immune function, ginsengs main active ingredients are the steroid like compounds *saponin triterpenoid glycosides* called *ginsenosides*. Renewed interest in ciwujia commonly known as *eleutherococcus senticosus or siberian ginseng*, has increased due to reports that subjects given ciwujia

survived longer under low-oxygen conditions. Researchers at the *Academy of Preventative Medicine* in Beijing, China also found that ciwujia has the ability to increase fat burning during exercise, while improving workout performance by sparing carbohydrate use which delays lactic-acid buildup, which as you know accelerates muscle fatigue, and the inflammatory response. Similar results were demonstrated in studies at the *Department of Physiology* at the *University of North Texas Health Science Center*, as well as the *Lesgraft Institute of Physical Culture and Sports in Moscow*. **Professor Igor Korobkov**, a Russian sports physiologist found that eleutherococcus senticosus stimulates the production of powerful anti-stress compounds produced by the adrenal glands. Today many natural health practitioners utilize siberian ginseng to stabilize adrenal activity to reduce cortisol production to prevent muscle wasting and post-workout traumatic syndrome symptoms. This improves both mental and physical recovery.

### **Grooving and Not Crashing**

As a point of clarification here, *siberian ginseng doesn't drive the central nervous system like many energizers, instead it strengthens the adrenal and endocrine systems.*

Classified as an adaptogen it works by targeting specific body systems and not symptoms to bring internal systems back into balance regardless of whether the system is under or overactive. This is in complete contrast to drug counterparts which only act in one direction which generally cause other problems or have dangerous side effects.

Adaptogens in essence work on the same premise as the theory of traditional Chinese herbal medicine that diseases and disruptions to metabolic pathways are a result of yin yang imbalance, an excess or shortage of either force in the human body.

### **The Many Faces of Ginseng**

Being one of the most utilized herb in the United States today , Ginseng's anti- fatigue, sexual enhancing and immune boosting abilities are legendary. It's performance enhancing abilities within a variety of athletic and fitness circles have also been well documented. While many varying forms of ginseng exist , some are more stimulating than others. For example Korean ginseng known as panax ginseng is highly stimulative and is warranted for short term or immediate energy needs. The other most common forms of ginseng used today are: American, Angelica sinensis ( female ginseng, donq quai), Asian, Chinese, Oriental, Red and White .

**Suggested dose:** 9 to 27 grams daily.

**Devil's Claw** (*Harpagophytum procumbens*) – This herb originating from South Africa is used extensively in Europe as an anti-rheumatic agent. In fact, it is approved by the *German Commission E ( a regulating body similar to the FDA here in the US)* to treat arthritis, lower back, knee and hip pain. While its mode of action initially wasn't fully understood, studies suggest that it suppressed the production of **leukotrienes ( compounds that heighten inflammatory response)** via active components within the herb known as **harpagosides**. More recent studies have indicated that *Devil's Claw* works by inhibiting the expression of *COX-2 (cyclo-oxygenase 2, a enzyme that promotes inflammation)* and *iNOS( nitric oxide enzymes that cause or transmit pain signals)*, by suppressing *NF-kB(nuclear factor –kappaB, a pro-inflammatory agent involved in activating and accelerating nerve pain signals)* and decreasing the production of *MMP's (matrix metalloproteinases which are proteases enzymes that can degrade collagen and tendons and increase pain following injury )*.

Bottom line here, devil's claw can help relieve arthritic disturbances, muscle soreness, swelling, tendonitis, as well as detoxify the blood and improve digestion.

**Suggested dose:** 200 mg standardized to 5% harpogoside daily.

**Guarana** – This Brazilian herb is reputed for its ability to combat physical and mental fatigue. Guarana contains about 7% caffeine, but a key difference between the two is the fact that guarana has a sustained release action, meaning it works over the course of hours and not for a few minutes, ultimately sustaining energy versus sending you into crash mode and the doldrums. This occurs due to the fact that guarana stimulates the release of fats in the blood. Your muscles can then utilize these fats for energy in place of glycogen, (fuel stored in the liver and muscles from carbohydrates) for later use.

Conversely, researchers at the *Human Cognitive Neuroscience Unit at Northumbria University*, of the United Kingdom, found that as little as 75 mgs of guarana can improve cognitive (mental) functioning and increases mood and alertness. This will help you reduce pre and post mental fatigue.

**Suggest dose:** 50 to 250 mg divided in 3 doses daily.

**Milk Thistle** - Strong, reliable, and consistent data has validated milk thistle's use as a liver tonic and detoxifier, as well as its high ORAC capacity. ORAC is short for **Oxygen Radical Absorbance Capacity**, which is a test scientists use to measure the total antioxidant power of foods and other substances. Clinical studies have shown that silymarin the most active ingredient in milk thistle, encourages the production of **superoxide dismutase (SOD)** and **glutathione peroxidase**, two of the most powerful inborn antioxidants your body has. Why is this important? Well for starters, this physiological process will protect your cells, reduce free radical production, eliminate the

buildup of toxic by products, thus reducing muscle wasting, muscle soreness and accelerate healing. The other key point here is the fact that you ingest a variety of growth factors on a daily basis, which are metabolized by the liver. Milk thistle will cleanse and detoxify your liver of the toxic byproducts of those growth factors. Remember, your liver is your primary organ that breaks down medications, drugs, supplements, foods and other substances, rendering them harmless. As a astute fitness and bodybuilder you know that protecting and preserving your liver function is not only key to maintaining life's processes but to how well your body stores and utilizes nutrients. In fact, it is glutathione that neutralizes the negative affects of acetometaphine the active component of many over-the-counter anti-inflammatory drugs like Tylenol, which is the number one cause of liver failure here in the United States.

**Suggested dose:** 300 to 600 mgs daily – standardized for silymarian content.

**Tongkat Ali-** Know as the Asian viagra or long jack root this herb is highly touted for its ability to boost libido, sexual performance and to treat erectile dysfunction. Studies indicate it's mode of action is that of accelerating and increasing testosterone production. Researchers indicate that compounds known as *glycoprotein's*( *proteins bound to carbohydrates*) found in this herb are responsible for its sexual enhancement abilities. These glycoprotein's appear to boost testosterone production by there ability to inhibit the release of the hormone *SHBG*, short for *sex hormone binding globulin*. SHBG binds with and inhibits testosterone's release. According to *Dr. Ismail Tambe* of the *University of Malaysia*, by reducing SHBG activity there is less protein to bind with this androgen and therefore more free androgen for use by the organs. Dr. Tambe also commented that this process will also reduce fat production. Additional studies have also found that

Tongkat Ali's influence on a hormone known as *hormone synthesizing enzyme CYP17* stimulates testosterone production. Tongkat Ali has also been shown in studies to be effective at increasing muscle mass and improving strength as a result of its direct impact on testosterone.

**Suggested Dose:** 600mg twice daily.

**Tribulus Terrestris** – Tribulus, also known as puncturevine, is gaining notoriety and being called nature's super herb. Used traditionally in Chinese medicine to treat liver, kidney, urinary, and cardiovascular disorders, it is touted for its ability to stimulate natural testosterone production. Tribulus influence on testosterone release according to Dr. Ray Sahelian M.D., may be due to its influence on androgen receptors located in brain cells. Data from a variety of scientific journals have also confirmed the fact that Tribulus contains a number of steroid saponins. Due to the above factors, this herb can also enhance sexual performance and is used to treat erectile dysfunction. Additionally, its ability to increase energy has been well documented because of its influence on the central nervous system.

### **The Lutenizing Connection**

The component thought to be most responsible for Tribulus's effect is *protodioscin*. Studies suggest that this compound stimulates the production of lutenizing hormone a precursor of testosterone and all its related anabolic attributes such as, lean body mass development, increased metabolism, more strength and heightened sex drive.

**Suggested dose :** Data indicates that 250 mg of Tribulus can improve lutenizing hormone levels by 166% and increase testosterone levels by 40%.

### **Wild African Mango Root**

Recently showcased on the Dr Oz show, this West African herb also known as Irvingia Gabonensis latin for African Mango has medical and natural health researchers clamoring over the possible positive health implications this herb would extend to various factions within the United States. Used as a daily food source for centuries in Africa, *a number of published studies since the 1980's have confirmed two distinct side effects of this herb if taken, resistance to diabetes and obesity.* Based on all the research what is so exciting about this herb is its multi-dimensional regulation of a number of different chemicals, metabolic pathways (PPAR $\gamma$  and glycerol-3, phosphate), genes that influence the production of hormones and enzymes that control metabolism, as well as inhibiting C-reactive protein elevation and regulation of adiponectin and leptin. Furthermore, this herb lowers total cholesterol and LDL (harmful cholesterol) and stabilizes blood glucose. With its 14% fiber content Irvingia Gabonensis improves elimination and also suppresses appetite.

### **The Scientific Stuff**

As a point of clarification here *C-reactive protein* is a protein produced by the liver. When this protein is elevated this signals alarming rates of inflammation throughout the body, which have been linked to a number of negative long term health conditions such as, cancer, elevated cholesterol levels, heart disease, rheumatoid arthritis, weight gain and obesity. *Adiponectin* is a hormone found in fat cells that revs up the body's metabolic rate thus converting food to energy at a faster rate, which discourages fat storage. Adiponectin also modulates and balances the actions of the hormones *neuropeptide Y* and *ghrelin*. Neuropeptide Y increases appetite while ghrelin keeps appetite cravings on an even keel and discourages over-eating. *Leptin* regulates excessive

food cravings, body heat and improves metabolism so that calories are burned up faster. *Glycerol-3phosphate dehydrogenase* is an enzyme that enables glucose to be stored as triglycerides in fatty tissue. Last but not least is **PPAR $\gamma$**  which stands for *peroxisome proliferators activated receptors*. Forget the scientific jargon here but remember that this is one of those proteins, yes proteins found in fat cells that play the lead role in *initiating and reactivating adipogenesis* (the formation of fat cells).

### **The Study Results Have Been off The Charts**

Over the last couple of decades besides some astounding results, it is the consistency of those results that has caught everyone's attention. For example, in a recent 10 week double blind placebo controlled study subjects who took Wild African Mango lost 28.1 pounds of weight as compared to 1.5lbs versus the placebo group, with an accompanying reduction of body fat by 6.3%, as compared to 1.9% in the placebo group. Collective data has also revealed that individuals supplemental use of this herb resulted in cholesterol levels dropping by up to 27% as compared to 4.8% in placebo groups. Also in a double blind randomized study at the *Department of Biochemistry at The University of Yaounde* in Cameroon, 40 subjects average age of 42 over the course of one month at dose ranges of 1.05g of Irving gabonensis 3x/day saw a 11.7lb reduction of weight as compared to 2.9 lbs of the placebo group. Furthermore researchers have reported that study subjects have enjoyed corresponding drops in cholesterol by 39.2%, triglycerides by 44.9%, elevation of HDL (good cholesterol) by 46.8%, and an overall reduction in blood glucose levels of 32.3%, as compared to little to no change within the placebo groups, in addition to the weight and fat loss.



**Suggested Dose:** 150 mg twice daily before meals up to 1000mg 3 times a day before meals. I would suggest starting at the low end range and adjust your dose based on your specific outcomes.

### **A Army To Large To Mention Them All**

While this report can't cover all of the herbal allies you have at your disposal, there are however some other well known and utilized herbs. They are and their known attributes are: *Arnica* (anti-inflammatory, bruising, pain relief), *Ashwaganda* (appetite stimulant, maintains internal anabolic activities, insomnia, mild sedative). *Bee pollen* (known as nature's perfect food, increases energy, stamina, and strength, reduces the production of histamine and boost immunity. Contains 35% protein, 55% carbohydrate, 2% fatty acid and 3% minerals and a high level of B-vitamins). *Bilberry* (improves microcirculation in eyes, increases blood circulation, rebuilds healthy connective tissue). *Fenugreek* (used to treat metabolic and nutritive dysfunctions, increases testosterone production, reduces and regulates the consumption of fat). *Fucoxanthin* (a type of brown seaweed or kelp that activates uncoupling proteins (UCP1's) in mitochondria cells to accelerate fat burning). *Garcinia Cambogia* (appetite suppressant, enhances energy without stimulating central nervous system, promotes glycogen synthesis, reduces and burns body fat). *Garlic* (acts as a natural antibiotic, stabilizes blood pressure, boost the immune response). *Ginger* (anti-inflammatory, reduces pain, relieves nausea and motion sickness, strengthens muscles in digestive tract). *Ginkgo Biloba* (enhances memory, improves overall body circulation). *Goldenseal* (detoxifies system, fights infections, reduces muscle spasms, stimulates digestion). *Gotu Kola* (boost energy, reduces stress, rejuvenates nerve and brain cells). *Green Tea* (boost metabolism and fat burning, reduces fat absorption). *Horny Goat Weed*

(boost sexual prowess/known as herbal viagra , used to treat erectile dysfunction and stimulate testosterone production ). **Pygeum**( improves sexual performance, reduces inflammation of prostate gland, relieves symptoms of enlarged prostate gland).

**Turmeric**( acts as a antioxidant, cleanses the liver, improves digestion, reduces inflammation). **Senna**( increases water and mineral electrolyte content in colon, prevents stagnation in colon thus speeding up elimination).**Valerian Root**( acts as a sedative, improves energy by regulating central nervous system activities, relieves muscle spasms and insomnia).

### **Some After Thoughts**

The concept of chemical exercise focuses on giving your body the right tools to enhance the activity of inborn bio-energetic pathways. Medicinal herbs appear to be one of those right tools and more! Don't put your goals in a holding pattern because of minor setbacks. You have a whole arsenal of pharmacologically active compounds ready to jump-start, re-ignite and rejuvenate your metabolic pathways. The only and most important aspect left in this renovation project is your continued commitment to reaching your goals. As the saying goes no surrender, no retreat, tomorrow and the next day in reality are the beginnings of a fresh start!

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