

## CAN HERBAL SUPPLEMENTS IMPROVE PERFORMANCE?

Athletes looking to improve athletic performance, enhance immunity, or manage a health concern may be interested in trying herbs in their nutrition program. Herbs have a long history of use and it is conceivable that some herbs may be of benefit for athletes and non-active people alike. However, quality research on herbs-both for health effects and performance-enhancement on the athletic field-is very limited; there is insufficient scientific support for the use of any herb to improve performance. Still, many studies-mostly of lesser quality-on a variety of herbs have noted potential benefits, including immune enhancement, decreases in inflammation, and the potential ability to recover faster from common colds and other ailments.

### Regulation of Herbs

In the United States, herbs are regulated by the U.S. Food and Drug Administration (FDA) as dietary supplements as part of the 1994 Dietary Supplement Health and Education Act (DSHEA). Herbs are not required to be standardized, and there are different interpretations of what standards should be followed so there is little consistency among different batches of products from different manufacturers. In

other words, it is often impossible to know what is contained in a given package containing herbs. Athletes should be wary of ingesting herbs with unproven ingredients that have unproven effects on health and performance and may cause harmful side effects.

### Specific Herbs, Potential Benefits, and Examples of Safety Concerns

Table S1 highlights many of the herbs athletes may be interested in using with the goal of enhancing sports performance, managing a health concern, or maintaining optimal immune status and overall health. Because herbs often contain potent natural chemicals, there is the potential for interaction with other herbs, foods, and medications. If athletes incorporate herbs into their overall nutrition and performance plan, working with a health care team to monitor potential side effects and interactions between herbs and other herbs or herbs and medications is strongly recommended. Athletes is finding reputable research and resources to support or refute the claims for herbs. Other key elements include ensuring that an herb is safe, confirming that it contains the recommended amounts of active ingredients, and determining the appropriate dosage. The resources listed below provide sound information to help answer these key questions about herbs for athletes.

HERB	ADDITIONAL NAMES FOR THE HERB	CLAIMED TO BENEFIT	EXAMPLES OF SAFETY CONCERNS
Arnica	Mountain tobacco, leopard's bane, wundkraut	Muscle pain, stiffness, osteoarthritis	May increase effects of anticoagulants
Astragalus	Huang chi, huang qi, milk vetch	Weak immune system, fatigue	May interact with immunosuppressant drugs
Cayenne	Capsicum, red pepper, African chilies	Musculoskeletal pain, osteoarthritis, digestive problems	Digestive disorders, skin irritation
Cordyceps	Caterpillar fungus, dong chon xai cao, semitake	Weak immune system, poor endurance performance	May reduce blood sugar levels
Devil's Claw	Grapple plant, harpagophytum, wood spider	Muscle pain, digestive problems, fever	May interfere with antidiabetes drugs
Echinacea	Purple coneflower, black Sampson, Indian head	Weak immune system, colds, infections	May interfere with immunosuppressants
Elderberry	Elderberry syrup, American elder	Colds, flu, fever, weak immune system, excess body water	May interact with diuretics or laxatives
Ginger	Zingiberis rhizoma, ginger root, Jamaica ginger	Nausea, vomiting, motion sickness, osteoarthritis	May interact with anticoagulants and antidiabetes drugs

HERB	ADDITIONAL NAMES FOR THE HERB	CLAIMED TO BENEFIT	EXAMPLES OF SAFETY CONCERNS
Ginseng	Chinese ginseng, ciwuija, Russian root	Poor endurance performance, low energy, weak immune system	May interfere with anticoagulants
Gotu Kola	Indian pennywort, hydrocotyle, kaki kuda	Varicose veins, edema	May interfere with hypoglycemic medications
Guarana	Guarana gum, zoom cocoa, Brazilian cocoa	Excess body fat, lethargy	Contains caffeine
Rhodiola	Golden root, Arctic root	Lethargy, fatigue, poor endurance	May interact with other herbs
Valerian	Mexican valerian, garden heliotrope, tagara	Insomnia, anxiety, depression	May interact with other sedatives
Willow Bark	White willow, purple osier, bay willow	Fever, muscle pain, osteoarthritis	May interact with anticoagulants

## CONCLUSION

Many herbs found on the market today have a long history of use as traditional medicines, especially in Asia. The challenge for athletes, coaches, and health professionals working with athletes is finding reputable research and resources to support or refute the claims for herbs. Other key elements include ensuring that an herb is safe, confirming that it contains the recommended amounts of active ingredients, and determining the appropriate dosage. The resources listed below provide sound information to help answer these key questions about herbs for athletes.

## SUGGESTED WEBSITE RESOURCES

**American Botanical Council**  
<http://www.herbalgram.org>.

The American Botanical Council website offers herbal information, health professional training, and additional resources on herbs and health. Full service requires a yearly fee.

**Consumerlabz**  
<http://www.consumerlab.com>

The ConsumerLab website provides independent test results and information on a wide range of supplements and herbs. Companies may voluntarily have their supplements tested through ConsumerLab.com. Lists of supplements (including herbs) that pass the ConsumerLab testing protocol are found on the site. Full services require a yearly fee.

**Memorial Sloan-Kettering Cancer Center Information Resource: About Herbs, Botanicals, and Other Products**  
[www.mskcc.org/aboutherbs](http://www.mskcc.org/aboutherbs)

This well-designed website provides objective information for health professionals and the public, with clinical summaries, adverse effects, interactions, and potential side effects of a wide range of herbs and supplements.

**National Library of Medicine PubMed**  
<http://www.ncbi.nlm.nih.gov/entrez>

This website is an excellent resource for researching the studies behind herbs and their potential benefits.

**Natural Medicines Comprehensive Database**  
<http://www.naturaldatabase.com>.

This database provides comprehensive reviews of herbs and supplements including potential uses, safety, effectiveness, mechanism of action, adverse reactions, interactions with herbs, supplements, and drugs, and dosage information. Particularly helpful is the ability to search specific brands of supplements and printable education sheets for athletes and patients. Full services require a yearly fee.

Information herein is intended for professional audiences, including scientists, medical professionals, athletic trainers, nutritionists, and other sports health professionals who have a fundamental understanding of human physiology.

The Gatorade Sports Science Institute® was created to provide current information on developments in exercise science, sports nutrition, and sports medicine and to support the advancement of sports science research.

**For additional information:**  
 In the U.S.A. and Canada: 1-800-616-GSSI (4774)  
[www.gssiweb.org](http://www.gssiweb.org)

Gatorade Sports Science Institute®  
 Worldwide Distribution Services  
 P.O. Box 1750, Barrington, IL 60010-1750