

HERBAL SUPPLEMENTS: DO THEY WORK? ARE THEY SAFE?

Are you using or thinking about using an herbal supplement to help improve your athletic performance? If so, here are some tips.

- Don't assume that the ingredients listed on the supplement label, and only those ingredients, are present in the amounts stated. There is essentially no regulation of the supplement industry.
- Be aware that herbal supplements sometimes include anabolic steroids, ephedrine, caffeine, and other substances that may not be listed on the label and may cause you to fail a drug test in your sport. More important, they may damage your health.
- Some early research has claimed that ginseng supplements can improve exercise performance, but that research has many flaws. More recent, better-controlled experiments have failed to show any positive effect of either Chinese or Siberian ginseng on performance.
- So-called "muscle building" anabolic herbs, including yohimbine, smilax, tribulus, wild yams, and gamma oryzanol are unlikely to have any effect on your muscles. The plant steroids found in many of these herbs cannot be converted by the human body into testosterone or other anabolic steroids. Claims that these agents can increase muscle mass have little or no scientific basis.
- Yohimbine can raise blood pressure, cause nerve paralysis, stomach and kidney disorders, seizures, and even death. Smilax stimulates urination, bowel evacuation, sweating, and coughing, any of which could be harmful to sport performance. Tribulus and oryzanol are probably safe when used at recommended dosages.
- The active ingredient in the ephedra herb is ephedrine, which is banned by sport governing bodies and can be very dangerous, leading to strokes and death. Although synthetic ephedrine combined with caffeine may improve exercise performance somewhat, the herbal product, i.e., ephedra, seems to be ineffective, perhaps because of variation in the potency of ephedrine contained in the herbal extracts.
- Ephedra stimulates the nervous system in much the same way as caffeine, so it can make an athlete feel energized, but it does not supply energy.
- Herbs can be especially dangerous when taken with certain prescription drugs or over-the-counter medications. You should tell your physician about any herbal supplements you are taking.
- Don't expect herbal supplements to take the place of hard training as a means of improving your performance.



SUGGESTED ADDITIONAL RESOURCES:

- Antonio, J., J. Uelmen, R. Rodriguez, and C. Earnest (2000). The effects of Tribulus terrestris on body composition and exercise performance in resistance-trained males. *Int. J. Sport Nutr. Exerc. Metab.* 10:208-215.
- Bell, D.G., T.M. McLellan, and C.M. Sabiston (2002). Effect of ingesting caffeine and ephedrine on 10-km run performance. *Med. Sci. Sports Exerc.* 34:344-349.
- Dowling, E.A., D.R. Redondo, J.D. Branch, S. Jones, G. McNabb, and M.H. Williams (1996). Effect of Eleutherococcus senticosus on submaximal and maximal exercise performance. *Med. Sci. Sports Exerc.* 28:482-489.
- Engels, H.J., and J.C. Wirth (1997). No ergogenic effects of ginseng (Panax ginseng C.A. Meyer) during graded maximal aerobic exercise. *J. Am. Diet. Assoc.* 97:1110-1115.
- Eschbach, L.C., M.J. Webster, J.C. Boyd, P.D. McArthur, and T.K. Evetovich (2000). The effect of Siberian ginseng (*Eleutherococcus Senticosus*) on substrate utilization and performance during prolonged cycling. *Int. J. Sports Nutr. Exerc. Metab.* 10:444-451.
- Green, G.A., D.H. Catlin, and B. Starcevic (2001). Analysis of over-the-counter dietary supplements. *Clin. J. Sport Med.* 11:254-259.
- Gurley, B.J., S.F. Gardner, and M.A. Hubbard (2000). Content versus label claims in ephedra-containing dietary supplements. *Am. J. Health Syst. Pharm.* 57:963-969.
- Mahady, G., C. Gyllenhaal, H. Fong, and N.R. Farnsworth (2000). Ginsengs: a review of safety and efficacy. *Nutr. Clin. Care.* 3:90-101.
- Wheeler, K.B., and K.A. Garleb (1991). Gamma oryzanol-plant sterol supplementation: metabolic, endocrine, and physiologic effects. *Int. J. Sports Nutr.* 1:178-191.

For additional information: In the U.S.A. and Canada: 1-800-616-GSSI (4774) ■ Outside the U.S.A.: 847-967-6092
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