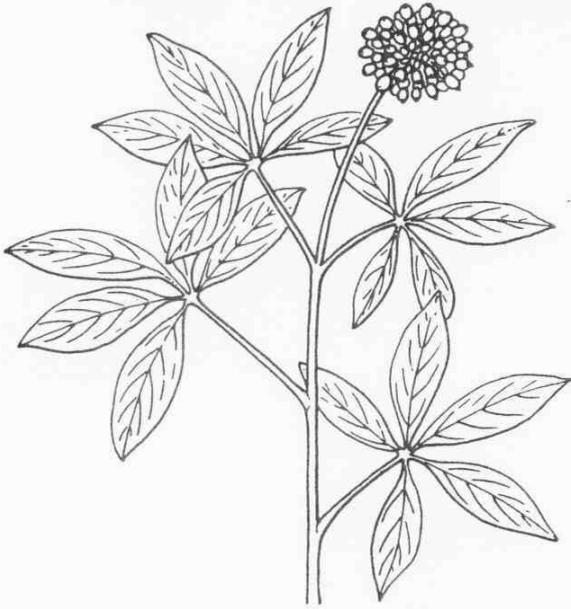


ELEUTHEROCOCCUS

THE SOVIET POWER PLANT NOW SWEEPING THE WEST



How do the Soviets break endurance records in space and routinely dominate at the Olympics? Dr Stephen Fulder reports on Siberian Ginseng, the Russian's own anti-stress herbal remedy, so powerful that it was prescribed to protect the victims of Chernobyl and is given to patients receiving chemotherapy or radiotherapy.

Dr Stephen Fulder MA, PhD is an author and consultant on the development of herbal products. He took a degree in biochemistry at Oxford University and his doctorate in the biology and genetics of cellular aging at the National Institute for Medical Research in London.

One remedy which appears regularly at the Olympic Games is a unique performance-enhancing herb which cannot be placed in any known drug classification. Despite extensive use in the Soviet Union for 30 years, the health and sports authorities know very little about it. For this reason it has not been included in international sport's list of banned substances.

It is a thorny creeping bush known as *Eleutherococcus senticosus*, which belongs to the botanical family of the *Araliaceae*; the same family as the ginseng root. It grows wild in the forests of Eastern USSR and China, and is sometimes wrongly described as "Siberian Ginseng", although it is a completely different plant.

Years of research led to its acceptance as an official Soviet medicine by the USSR Health Ministry in 1962 and it is now in the official national drug list along with some other health remedies unique to Oriental traditional medicine, such as ginseng, pantocrine (deer antlers) and schizandra.

The Soviets are so keen on the use of *Eleutherococcus* that they issue a central directive from the Sports Ministry to all training and sports centres throughout the USSR, stating that *Eleutherococcus* ("Eleuthero") should be taken during sports training. Why do the Soviets regard it as so important?

The story began in the USSR Academy of Science's Institute of Biologically Active Substances in

Vladivostok. Professor Israel Brekhan gave Eleuthero to a large group of athletes before a ten-mile race. Those taking the concentrated extract chopped an average of five minutes from the time set by another group who were only given a look-alike placebo. This encouraged Professor Korobkov to carry out trials with 1,500 sportsmen at the Lesgraft Institute of Physical Culture and Sports in Moscow. He confirmed that Eleuthero could increase endurance, strength, reflexes and concentration, and made a significant difference in longer events. They concluded that Eleuthero was helping the body to adapt to the special demands put on it by strenuous physical activity. It wasn't by any means a stimulant, rather more an adjustive or restorative, which helped the body to adapt metabolically.

As a result of these studies, guidelines were issued to sportsmen that Eleuthero should always be taken to help the body adapt and recover during intensive training. Eleuthero was not expected to make much difference in the events themselves when it is assumed that the body has already adapted.

For this reason **Eleuthero is not banned for use during International sports events.** Professor Korobkov, in his book *Medical Preparations with Applications in Sports Medicine* states that Eleuthero, ginseng and similar remedies "have nothing in common with doping. Their action is primarily aimed

at accelerating the restorative processes to unfavourable external influences". Unfortunately, ginseng has been recently in question for sports use, not because of the ginseng itself, but because **some ginseng products coming from the Orient were found to be contaminated with ephedrine which is banned.** Hopefully sportsmen will be able to use Eleuthero without this danger.

The USSR is years ahead of the West in testing possible herbal remedies for healthy people. It began in the 1950s after the Soviets made contact with traditional Oriental remedies in the Korean War. Eleuthero, which the Chinese call "Ciwuja", was tested with animals which were exercised to exhaustion on endless ropes, or with insufficient oxygen, or bearing physical loads. In all cases *Eleutherococcus*-treated animals could go on much longer and function more effectively, especially if the tests continued over several days.

When this was repeated with people performing stressful physical tasks, such as radio telegraphists required to transmit lengthy and speedy messages, it was found that work capacity (in this case accuracy) improved by 30 per cent. A new study in the US (reported in *International Clinical Nutrition Review* in January 1989) demonstrated that one gram of *Eleutherococcus* could slightly increase maximum oxygen uptake and post-exercise heart rate recovery time. The strength of chest and leg muscles

increased considerably.

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When Soviet researchers began to investigate how these improvements in stamina were achieved, they found some surprises. For it turned out that Eleuthero had no connection with any known stimulants, and indeed had no detectable stimulating effect on people or animals during normal activity. The effect was only noticeable **when under stress**.

Surprisingly, it wasn't only physical exhaustion. Animals were much better able to **tolerate temperature stress, surgical stress, poisons, alcohol, drugs and a wide variety of stresses to the body**. Then began a most extraordinary series of experiments. Eleuthero was tested by sailors on long tropical and submarine voyages, and gave improvements in physical adaptation (such as ability to regulate **temperature, physical and mental working capacity, visual acuity, sleep, appetite, heart and circulatory function, resistance to disease**) compared to those taking a placebo. It was similarly tested in those in the Arctic, in trainee cosmonauts at the Moscow Cosmodrome in those working at high altitude, in heavy industry, in long-distance lorry drivers, in miners and so on: for example Eleuthero was given to no fewer than 13,000 workers at the giant Volga car plant at Togliatti, with around 35 per cent drop in disease incidence and cardiovascular problems.

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These studies induced Professor Brekhman to coin the phrase "**adaptogen**". That is, a non-stimulating remedy that improves our performance and resistance by helping the body to adapt to unfavourable circumstances. Biochemical research tends to support this definition. It shows that Eleutherococcus makes the stress-control centres of the body work more efficiently.

The adrenal gland secretes steroids when under stress. These mobilise defences by shifting blood to the muscles, improving the supply of energy compounds in the blood, increasing detoxification mechanisms in the liver, alerting the brain etc. But constant or extreme stress causes an overload of steroids in the body, leading to poor adaptation and ill-health. Adaptogens seem to work by conserving stress hormones and making their use more efficient. Sugar supply in the blood and tissues, the level of exhaustion chemicals such as lactate, the body-building functions in the liver, spleen and so on, some immunological markers

such as interferon - **they are all increased with** Eleutherococcus, without the need for a flood of corticosteroid alarm hormone.

As this research appeared, Eleuthero began to be relished by others besides sportsmen. It is used by Soviet deep-sea divers, mine workers, mountain rescuers, climbers, soldiers, factory workers, lorry drivers and pilots. Soviet cosmonauts, starting with Vladimir Lyakhov and Valery Ryumin take 4mi Eleutherococcus extract (containing four grams of root) every morning in space, and it apparently made more bearable the record-breaking sojourns on the Salyut-6/Soyuz 32 space station.

More recently it has been given to people affected by radiation after the Chernobyl disaster. Research has shown the Eleutherococcus is a powerful protector from irradiation. A series of studies in the USSR and China have now been repeated at the national medical laboratories (INSERM) in France. Mice were irradiated with sufficient doses of radiation to kill them all within 30 days. However, when they were given Eleutherococcus "woke up" the immune and blood forming cells. The authors of this report (published in *Experimental Hematology* in 1988) state that Eleutherococcus is the only known substance that can produce radiation protection as long as 12 hours *after* the radiation is given. They comment: "**This is of capital importance**".

The Soviets produce enough Eleuthero to provide **12 million doses a month**. It is added to beer ("Bodrost") and vodka to counteract the toxicity of alcohol, and you can buy sugar cubes laced with Eleuthero, among other Chinese herbs, to help overcome the metabolic stress caused by the sugar. Surely the Soviets were first in producing such "designer-foods" or functional foods.

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Eleuthero is not only used by the healthy. Studies at major Soviet research institutes and medical centres have found it hastens convalescence and return to health after heart attack, tuberculosis and other chronic infections, viral infections, nervous disorders and others. It is now widely used as a recovery medicine. Soviet cancer specialists have been aware for some time that the stress of cancer treatments such as surgery or chemotherapy can actually permit the spreading of the cancer and shorten life. Eleutherococcus taken during and after cancer treatment seems to protect the patient. Studies at, for example, the Petrov Oncological Institute, have

shown that if patients are given Eleuthero during their treatment for advanced cancer, their lifespan can be increased by around 50 per cent beyond expectations. Eleuthero is used in this way at many centres around the Soviet Union.

How should one take Eleuthero?
Eleuthero is collected mainly in Russia and China. The Russian Eleuthero is regarded as the best. It is a rather woody root and is only available ground into powder and put into capsules. It is advisable to have two grams a day of dried root. **Unfortunately, Eleuthero capsules do not always contain the pure Eleuthero that they should. Dr Albert Leung, author of the Encyclopedia of Common Natural Ingredients Used in Food, Drugs & Cosmetics has reported that two out of seven samples of Eleuthero off the shelf were not Eleuthero at all, and three others did not conform to the correct specification.**

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Fortunately, it has just recently become possible to buy standardized Eleuthero in which all batches are analysed and shown to contain the proper ingredients. All products containing standardised Eleuthero will therefore be of guaranteed potency. As they are extracts they are also concentrated and one does not need to consume large capsules of powdered plant material.

Eleuthero should be taken whenever you undergo a period of special stress or when you need to adapt to new circumstances. Examples include physical training programmes, preparing for examinations, In stressful occupations, moving to a new country or environment, during any kind of work marathon etc. It is very useful during convalescence and during surgery and serious medical treatment. It helps to detoxify the body from drugs and alcohol.

Unlike ginseng it is not stimulating. That means that energetic, active and even nervous personalities need not fear the over-stimulatory effects of ginseng. For this reason it is also more suitable than ginseng in hot climates and it is even safer than ginseng. **There are no side effects in normal doses, and sportsmen can use it without fear of upsetting their finely tuned systems.**

