15 October 2008

By: Dan Talpalariu, Science Editor

Garlic contains selenium, an antioxidant that can fight free radicals WordPress

Garlic Selenium Helps Fight Against Free Radicals

Some health and environment issues can be addressed by antioxidants

Free radicals are organic molecules that don't have the necessary even number of electrons in their composition, which makes them very unstable. They get their needed electrons from almost anything, creating other free radicals in the process. For humans, this translates in severe illnesses. Antioxidants, on the other hand, are molecules that prevent and reverse the effect of the free radicals. Such antioxidants are found in the selenium content of garlic. A recent study of Professor Carl Schiesser, the Director of the Australian Research Council for Free Radical Technology, indicates that a better understanding of the effects of free radicals could help addressing issues in areas like environment, health and industry. According to Professor Schiesser, "If you understand how free radicals work, you can design new methods of controlling their reactions, for example by identifying new types of pharmaceuticals that may help inflammatory diseases. Free radicals that are caused in the atmosphere from pollution can cause inflammatory disorders that manifest as asthma, as well as DNA strand cleavage which can lead to cancer. The depletion of ozone in the atmosphere is allowing more ultra violet radiation to permeate through and really there can be no doubt it is causing more free radical damage to numerous things, including us." However, this research isn't limited to environmental or health-related issues, since free radicals are responsible for more than just that. "It's not only in the health sector that free radicals are important, they are also important in material sciences. Free radical reactions are also responsible for the way paint fades or the way plastic becomes brittle," Professor Schiesser explains. His new studies focus on developing novel techniques that will allow a better control of the free radicals. For the time being, the professor and his team are attempting to develop a computer model of how free radicals work. "We can get enormous insight by simply utilising a virtual environment. The University of Melbourne will soon be able to (computer) model a free radical reaction, which is something that has never been done before." he says. Schiesser holds a seminar on the impact free radicals have on humans and the way this could be prevented and repaired.