

## Technical Spotlights from Korea



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### ***Hinoki Forests Effective in Curing Asthma***

***Phytoncide Research by KFRI Shows that Sabinene Kills Alternaria Alternata  
Experts in the Forest Science, Medical Science and Oriental Medicine Discussed the  
Effects at the Symposium Titled "Hinoki Forests, Healing and Green Growth."***

Seoul, Korea—The XXIII IUFR0 World Congress in Seoul will showcase the recent research on the effects of sabinene, an anti-asthma hydrocarbon extracted from pepper, blocking *alternaria alternata*. The asthma-causing plant pathogens spread via respiration, and recently researchers at Korea Forest Research Institute (KFRI) identified that 0.4 $\mu\text{g}/\text{m}^3$  of sabinene in the air of the Hinoki forests in Mt. Chukryong can combat germs of asthma. The mountain is located in Jangseong County, South Jeollah Province (west-southern part of South Korea). Ahead of the XXIII IUFR0 Congress, the research result was presented in the symposium titled "Hinoki Forests, Healing and Green Growth" in Jangseong County Hall on 24 June 2010.

The phytoncide\* research team of KFRI compared the Hinoki forests in Mt. Chukryong with pine forests in Mt. Seorak, Gangwon Province (north-eastern part of South Korea) in terms of ingredients and concentration of sabinene and phytoncide. The comparative study was conducted in the field for three months and the research result is significant in that it unveiled the possibilities of forest therapy for the public and the sick. Unlike the previous studies centering on volatile phytoncide of leaves, the research analyzed phytoncide from the air by capturing and storing the air seven times from 7:00 to 19:00 during the study period.

\* *Phytoncide is known to be emitted from trees for self-protection from molds and bacteria and helpful in killing them in the human body as well.*

The research shows that the phytoncide concentration stands at 6.7~7.7  $\mu\text{g}/\text{m}^3$  in the Hinoki forests while 4.5~4.9  $\mu\text{g}/\text{m}^3$  in the pine forests. The medicinal extract sabinene was found only in the Hinoki forests. In the analysis of phytoncide in leaves, the Hinoki cypress leaves contained phytoncide 3.9 times more than that of pine trees and 2.2 times than that of Korean pines. More than that, the Hinoki forests hold the similar level of phytoncide through four seasons—spring, summer, autumn and winter—in Korea.

The oriental medicine research team led by Professor Kim Ho-Chul of Kyunghee University gave a presentation at the symposium. Their study was established to set the concept of forest therapy from the perspective of oriental medicine in order to develop the home-grown forest therapy contents and programs. It also aims to clinically prove the effects of forest therapy.

Oriental medicine views forests as the epicenter of all creatures in harmony. Intact nature was understood as a place where humans refresh physically and psychologically for health. Despite increasing diseases today caused by urbanization and industrialization, forests are expected to revitalize the human body through the customized therapy programs based on the oriental medicine theories.