



PRESS RELEASE (2026/09/16)

Japanese Hinoki root essential oil may support better sleep at home

Pilot study suggests an underused forestry resource could offer new value in aroma-based relaxation products

Fukuoka, Japan—Sleep problems are common in middle age, particularly among women in their 40s and 50s. In a new study published on September 1, 2026, in the [*Journal of Wood Science*](#), researchers explored whether essential oils derived from Hinoki (*Chamaecyparis obtusa*), known as Japanese cypress, roots could help improve sleep quality. Participants reported fewer nighttime awakenings, improved morning feelings, and brain-wave patterns suggesting smoother sleep onset.

Hinoki is widely used as timber in Japan, but its roots are often left unused after logging. These roots contain aromatic compounds and can be used to produce essential oils. Although essential oils derived from Hinoki branches and leaves have been studied previously, much less is known about those obtained from its roots.

“We wanted to address two questions: whether essential oil production could add value to underused Hinoki roots and whether that oil could improve sleep,” says [Associate Professor Kuniyoshi Shimizu](#) from Kyushu University’s [Faculty of Agriculture](#). “In our earlier work, we examined sleep quality over a single day in a laboratory-like setting. However, sleep is strongly influenced by daily routines and the home environment. Therefore, we decided to examine the effect of repeated use over two weeks in participants’ own bedrooms using both subjective assessments and physiological measurements.”

Twelve Japanese women aged 35–60 years took part in a single-blind crossover study. Each participant used Hinoki root essential oil for two weeks and an unscented control for two weeks. At bedtime, participants placed three drops of the oil in a paper cup, inhaled the aroma for 10 seconds, and then left the cup about 30 cm from their nose while they slept. Their sleep was monitored using a wearable brain-wave headband, a smartwatch, and a questionnaire completed each morning.

Repeated use of Hinoki root essential oil was associated with favorable changes in several measures of sleep. By day 13, participants reported feeling less sleepy upon waking and more recovered from fatigue than when using the control. Smartwatch measurements also showed fewer nighttime awakenings. Brain-wave recordings further indicated that, after seven days of using the Hinoki essential oil, participants showed greater delta-wave activity around sleep onset, a pattern consistent with a smoother transition into deeper sleep. Participants rated the Hinoki aroma as more relaxing, comfortable, likable, elegant, nostalgic, and woody than the control.

“By combining physiological measurements with participants’ subjective assessments, we were able to examine sleep from multiple perspectives under everyday home conditions, which was an important aspect of this study,” emphasizes Shimizu. “Our findings suggest that

repeated use of Hinoki root essential oil at home may support sleep initiation, sleep continuity, and feeling refreshed in the morning.”

One possible application is the development of Hinoki root-based aroma products for use in bedrooms or other relaxation settings. Because the study used a simple method—placing a small amount of essential oil near the bed—it may also provide a useful model for evaluating aromatic materials under everyday home conditions. More broadly, the findings may encourage the use of Hinoki roots and other forestry residues as higher-value materials rather than leaving them underused. Further research would be needed to determine appropriate products, doses, and usage conditions.

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For more information about this research, see "Sleep improvement by Kagawa Hinoki root volatiles in middle-aged women: a home-based pilot study" Fadilla Zennifa, Akiko Isa, Erika Tomimatsu, Yanli Xu, Ryuma Taki, Hiroo Yasutomi, Naotoshi Yasumori, Kuniyoshi Shimizu, *Journal of Wood Science*, <https://doi.org/10.1186/s10086-026-02296-3>

About Kyushu University

Founded in 1911, [Kyushu University](#) is one of Japan's leading research-oriented institutions of higher education, consistently ranking as one of the top ten Japanese universities in the Times Higher Education World University Rankings and the QS World University Rankings. Located in Fukuoka, on the island of Kyushu—the most southwestern of Japan's four main islands—Kyushu U sits in a coastal metropolis frequently ranked among the world's most livable cities and historically known as Japan's gateway to Asia. Its multiple campuses are home to around 19,000 students and 8,000 faculty and staff. Through its [VISION 2030](#), Kyushu U will “drive social change with integrative knowledge.” By fusing the spectrum of knowledge, from the humanities and arts to engineering and medical sciences, Kyushu U will strengthen its research in the key areas of decarbonization, medicine and health, and environment and food, to tackle society's most pressing issues.



FIG.1 Hinoki (*Chamaecyparis obtusa*) roots from Kagawa Prefecture, Japan. Hinoki roots contain aromatic compounds and can be used to produce essential oils. This study examined the potential of essential oil derived from these roots to support sleep in middle-aged women, while exploring a higher-value use of an underused forestry resource. (Kuniyoshi Shimizu/Kyushu University)

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