

AGRICULTURE AND DEVELOPMENT SEMINAR SERIES (ADSS) HIGHLIGHTS

Health Benefits of Rattan Shoots

Paper presented by Dr. Fe Grace B. Yu

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The findings of this paper are drawn from the indigenous knowledge systems and practices (IKSP) of the Kanawan Aytas who live in Morong, Bataan. Kanawan Aytas forage the forest for food and medicine. Based on national standards, they live below the poverty line, with their daily meals averaging ₱6/day. This research intended to help this group of indigenous peoples (IPs) with their livelihood program.

Personal interviews revealed that Kanawan Aytas consume food that is commonly not eaten by the general public. One example is the 'rattan limuran' (*Calamus ornatus* Blume var. *philippinensis*), a widely distributed species of rattan endemic to the Philippines. The young terminal shoots of limuran serve as food and medicine to the Aytas.

Using a bioassay guided method, the methanol extract of limuran shoot afforded saponins with anti-inflammatory properties. The anti-inflammatory assay was carried out using Cyclooxygenase (COX)-1 & -2 Enzyme Inhibitory Assay according to the previously published procedures (Jayaprakasam et al., 2006). COX-2 plays a key role in causing pain and inflammation and its inhibition may suppress tumor cell growth whereas COX-1 is responsible for the protection of the lining of the stomach. The same extract exhibited anti-motility property.

Saponins are present in plants and have been suggested as anti-carcinogens. The specific inhibitors decrease cancer incidence by inhibiting COX enzyme. The anti-inflammatory properties of saponins are associated with chemopreventive activities. Through the Tumor Cell Viability Assay, it was found that saponin-3 acts more on breast cancer cells.

All these results were compared with various drugs in the market in terms of their medical properties. Vioxx, a very potent inhibitor of COX-2, had been used by 80 million people suffering from arthritis and other pain. Headlines about the heart-and-stroke risks of Vioxx, its manufacturer pulled this product from the market. Other non-steroidal anti-inflammatory drugs were advised to revise labeling for their products to include a boxed warning, highlighting the potential life-threatening gastrointestinal bleeding and cardiovascular diseases associated with their use.

Thus, having found that the *limuran* has anti-inflammatory, anti-diarrhea, and anti-carcinogenic properties, a possible future project may be the propagation of rattan *limuran* shoots to develop health products.

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One participant asked whether the age of *limuran* for harvesting was tested. The age may have an effect on the activity of the compounds. Dr. Yu explained that since this is a pilot study, the plant materials

used were those being eaten by the Aytas. Another project can be done to determine the effect of the rattan's age. It was also noted that the different ways of extraction could yield different results.

Dr. Yu further explained that three species are considered for future study but there is no permission yet from the Aytas. Throughout the Philippines, there are approximately 80 taxa of rattan species.

Dr. Wilma A. Hurtada, food and nutrition expert at UP Los Baños, expressed her hope that research on the food of indigenous peoples be focused on their role as food for these poverty-stricken groups rather than development of drugs that might just lead to exploitation of indigenous knowledge by unscrupulous corporate entities.

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