October 2025

Hilltop Cloud

Time Travellers Club

Dear Club Members,

Ten years ago Tu Youyou became the first Chinese woman to win a Nobel prize. It was awarded for her work creating the drug Artemisinin, an anti-malaria drug which was saved millions of lives.

Malaria kills around 600,000 people every year, primarily children in sub-Saharan Africa, it's second only to TB where the cause of death is an infectious disease. Tu Youyou discovered the drug in 1972, at that time treatment options for Malaria were extremely limited, and Malaria vaccines only began to be used in 2023.

Tu was born in 1930, A TB infection during high school is what prompted her to pursue a career in Medical Research. She worked in the Academy of Traditional Chinese Medicine, originally researching Lobelia chinensis, a traditional Chinese medicine believed to be useful for treating Schistosomiasis, a disease spread by water snails, which infect the urinary tract or the intestines. It was a widespread disease in the first half of the 20th century in South China.

In 1967, during the Vietnam War, President Ho Chi Minh of North Vietnam asked Chinese Premier Zhou Enlai for help in developing a malaria treatment for his soldiers trooping down the Ho Chi Minh trail. In that area the form of Malaria that was most common was resistant to the drug Chloroquine. Malaria was also a major cause of death in China's southern provinces, so a secret drug discovery project was set up. In 1969 Tu was appointed the head of that project.
She first investigated the Chinese medical classics in history, visiting practitioners of traditional Chinese medicine all over the country. She gathered her findings in a notebook called A Collection of Single Practical Prescriptions for Anti-Malaria. Her notebook summarised 640 prescriptions. By 1971, her team had screened over 2,000 traditional Chinese recipes and made 380 herbal extracts, from some 200 herbs, which were tested on mice.

One compound was effective, sweet wormwood (Artemisia annua), which was used for "intermittent fevers," a hallmark of malaria. Its preparation was described in a recipe from a 1,600-year-old traditional Chinese herbal medicine text titled Emergency Prescriptions Kept Up One's Sleeve. Key to the drugs effectiveness was it's preparation, if the compound was extracted with boiling water it was destroyed, Tu discovered that a low temperature extraction was key. Tu says she was influenced by the source, written in 340 by Ge Hong, which states that this herb should be steeped in cold water. This book instructed the reader to immerse a handful of qinghao in water, wring out the juice, and drink it all. In 1972, she and her colleagues obtained the pure substance and named it qinghaosu (青蒿素), or artemisinin in English. Tu also studied the chemical structure and pharmacology of artemisinin. Tu volunteered to be the first human test subject. "As head of this research group, I had the responsibility," she said. It was safe, so she conducted successful clinical trials with human patients. Her work was published anonymously in 1977. In 1981, she presented the findings related to artemisinin at a meeting with the World Health Organization.

Her career then goes almost completely unrecognised until 2011, at which point the Western world began honouring her for her lifetime of work. As of 2023, she is the chief scientist of the China Academy of Chinese Medical Sciences, and is still living in Beijing.

Your fibre this month is inspired by the colours of the Wormwood plants, partly Sweet Wormwood, but also the beautiful colour of Artemisia absinthium, or common Wormwood (yes the one used to make Absinthe), which is found in many European and North American gardens.

Happy Spinning

Katie

Fibre Content- In case your parcel is missing the label
25% Mulberry Silk
13% Ramie
62% BFL

Further Reading-

https://www.bbc.co.uk/programmes/profiles/xTstrz9f4JdwzfcW9WGYqj/tu-youyou

https://pmc.ncbi.nlm.nih.gov/articles/PMC4731589/

BBC World Service documentary
https://www.bbc.co.uk/sounds/play/w3ct6svr

You Tube video on her life and work
https://www.youtube.com/watch?v=IZQc9S12ZvM