

Title: The Journey of the Kava Plant, created by Caroline Taripo-Keith 2024

Leilani loved spending time with her grandmother, who often shared stories about their Samoan heritage. One evening, as they sat under the stars, her grandmother began to tell her about the kava plant, known in Samoa as ava.

Grandmother's Story: The Cultural Significance of Ava

"Leilani," her grandmother began, "the ava plant is very special to our people. It has been used for centuries in our ceremonies and rituals. When Samoans talk about the genealogy of the kava (gafa o le ava), they are talking about the origins of the kava and how it spread around the Samoan islands. The first kava ceremony involved Tagaloa-ui, the son of the Sun, and Pava, a local man. This ceremony established the rituals we still observe today, such as the formal welcome, the presentation of the kava root, and the clapping before drinking kava."



Leilani listened intently as her grandmother continued. "The kava plant grew from the body of an ancestor, symbolizing the connection between the living and the dead. Drinking kava in our ceremonies is a way to honour our ancestors and connect with their spirit and mana. The strength of the kava, which refers to its potency and calming effects, is highly valued in these ceremonies."

Leilani's Connection: The Science of Kava

Leilani thought about what she had learned in her science class. "Grandma, in school, we learned that DNA is like a recipe book inside every cell of the kava plant. It contains instructions for growth and development. Each gene in the DNA is a specific instruction for a trait, such as the plant's height or the potency of its calming effects."

Her grandmother nodded. "Yes, Leilani, and those traits are passed down through generations, just like our stories. The genes come in different versions called alleles. For example, one allele might make the kava plant grow taller, while another might make it shorter. These alleles are located on chromosomes, which are long strands of DNA."

Leilani added, "We also learned that the DNA code is made up of sequences of four bases: adenine (A), thymine (T), cytosine ©, and guanine (G). The order of these bases determines the instructions for making proteins, which are essential for the plant's traits."

Grandmother's Story: The Journey Through the Pacific

"The kava plant's journey across the Pacific is a testament to its importance in our culture," her grandmother continued. "Our ancestors carried kava plants with them as they voyaged from island to island. Each new environment presented challenges, but the genetic diversity within the kava plants allowed them to adapt and thrive. This journey not only spread the kava plant but also enriched the gene pool, making the plants more resilient."

Leilani's Connection: Genetic Variation and Disease Resistance

Leilani was excited to share more of her knowledge. "Grandma, genetic variation arises through mutations, fertilization, and meiosis, leading to differences in traits among kava plants. This variation is crucial for the plant's adaptation and survival. Some kava plants have developed resistance to certain diseases, ensuring their survival and continued use in our cultural practices."

Her grandmother smiled. "That's right, Leilani. The strength of the kava and its disease resistance are influenced by specific genes. Some kava plants have alleles that produce stronger effects, making them highly valued in our ceremonies."

Grandmother's Story: The Importance of Ceremonies

"Kava is deeply rooted in our culture," her grandmother said. "It is used in various ceremonies, from welcoming guests to important community gatherings. The preparation and consumption of kava are surrounded by rituals that honour the plant and its significance. During these ceremonies, the strength of the kava is a symbol of respect and connection to our ancestors."

Leilani's Connection: The Role of Genetic Databases

Leilani thought about the scientific tools she had learned about. "Scientists store DNA sequences in databases like GenBank, which helps researchers' study and preserve the genetic diversity of plants like kava. This ensures that future generations can continue to benefit from the plant's unique properties."

Her grandmother nodded in agreement. "It's wonderful to see how the knowledge from our ancestors and modern science can come together to help us understand and preserve the kava plant."

