

PURE7 Knowledge Center — Phase 1 Foundations

This document serves as a structured educational content framework for the PURE7 Knowledge Center. Each section includes placeholders for imagery, diagrams, charts, laboratory examples, and visual educational assets

🔍 **Category:** Botanical Science ⬤ **Phase:** Introductory 📄 **Topic:** Mitragyna Speciosa

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01 What Is Kratom?

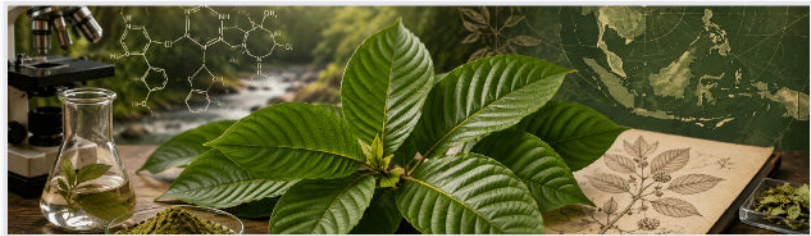
Kratom is a tropical evergreen tree scientifically known as *Mitragyna speciosa*. It belongs to the coffee family, known as Rubiaceae, and is native to parts of Southeast Asia including Thailand, Indonesia, Malaysia, and Myanmar. The leaves of the kratom tree contain naturally occurring compounds called alkaloids. Researchers have identified dozens of alkaloids within the plant, with mitragynine and 7-hydroxymitragynine being among the most commonly discussed in scientific literature. Traditionally, kratom leaves were harvested by hand and prepared in several ways depending on regional customs. In modern markets, kratom is available in multiple formats including powdered leaf, capsules, extracts, tablets, beverages, and gummies. Kratom products can vary significantly depending on cultivation methods, harvesting conditions, drying techniques, extraction processes, and alkaloid standardization.

Botanical Classification

- 🔍 Scientific Name: *Mitragyna speciosa*
- 🔍 Family: Rubiaceae
- 🔍 Native Regions: Southeast Asia
- 🔍 Plant Type: Tropical evergreen tree

Plant Structure

The kratom tree can grow over 50 feet tall in tropical climates and produces broad green leaves containing naturally occurring alkaloids and plant compounds.



02 The History of Kratom

Traditional Southeast Asian Use

Historical records and regional traditions indicate that kratom has been used in Southeast Asia for generations. Communities in Thailand, Indonesia, and neighboring regions traditionally harvested fresh kratom leaves for local use. In some historical practices, laborers reportedly consumed kratom leaves during long working hours in agricultural environments. Traditional use methods varied by region and cultural practices.

Historical Preparation Methods

Traditional preparation techniques included:

- 🔍 Chewing fresh leaves
- 🔍 Drying leaves for later use
- 🔍 Brewing leaves into tea-like preparations
- 🔍 Grinding leaves into powder



Colonial-Era Botanical Documentation

European botanists and researchers documented kratom during the 19th century as trade and exploration expanded throughout Southeast Asia. The plant was formally classified as *Mitragyna speciosa* by Dutch botanist Pieter Willem Korthals in the 1800s. Early botanical studies focused on the plant's appearance, native habitat, and chemical composition.

Expansion Into Modern Global Markets

During the late 20th and early 21st centuries, kratom products became more widely available outside Southeast Asia. Increased global interest led to expanded cultivation, modern extraction techniques, laboratory testing standards, and new product categories. Today, kratom products are distributed in multiple international markets, with regulations varying significantly by country, state, and local jurisdiction.

03 Understanding Kratom Alkaloids

What Are Alkaloids?

Alkaloids are naturally occurring compounds found in many plants. Numerous plants contain alkaloids, including coffee, tea, cacao, tobacco, and kratom. Researchers have identified more than 40 alkaloids within kratom leaves. These compounds may vary depending on genetics, climate, soil conditions, harvest timing, and processing methods.

Major and Minor Alkaloids

Some commonly referenced kratom alkaloids include:

Mitragynine 7-Hydroxymitragynine (7OH) Speciogynine Paynantheine Speciociliatine

Why Alkaloid Ratios Matter

Different kratom plants and product formulations may contain different alkaloid ratios. These variations can result from geographic growing region, drying methods, leaf maturity, extraction techniques, and standardization processes. Laboratory analysis is commonly used to measure alkaloid content and maintain consistency across production batches.



04 What Is 7-Hydroxymitragynine (7OH)?

Natural Occurrence

7-Hydroxymitragynine, often abbreviated as 7OH, is a naturally occurring alkaloid found in kratom leaves. Scientific literature generally describes it as being present in significantly smaller concentrations than mitragynine in raw leaf material.

Relationship to Mitragynine

7OH is structurally related to mitragynine. Researchers continue studying the relationship between kratom alkaloids, plant chemistry, extraction methods, and standardization practices.

Modern Extraction & Formulation

Advances in extraction technology and analytical testing have allowed manufacturers to produce more concentrated and standardized kratom-derived products. Modern formulation methods may involve alkaloid isolation, extraction refinement, laboratory verification, batch standardization, and quality-control testing.



05 Traditional vs. Modern Paradigm

Traditional Leaf Preparation

Historically, kratom was primarily consumed using minimally processed leaves prepared locally in Southeast Asia. Traditional methods generally involved fresh leaf chewing, sun-drying leaves, brewing leaves into teas, and simple grinding techniques.

Modern Extraction & Standardization

Modern kratom production often involves advanced manufacturing equipment, filtration systems, analytical testing, and standardized extraction processes. Contemporary products may include standardized extracts, measured tablets, capsules, ready-to-drink beverages, and powder blends.

Evolution of the Industry

As consumer demand expanded internationally, the kratom industry evolved to include laboratory testing, COA verification, LOT traceability systems, manufacturing quality standards, and regulatory compliance programs.

06 Quality Control & Testing

- 🔍 Testing standards and transparency
- 🔍 COAs, LOT codes, and traceability
- 🔍 Heavy metals and microbial testing

Testing Standards & Transparency

As consumer demand expanded internationally, the kratom industry evolved to include laboratory testing, COA verification, LOT traceability systems, manufacturing quality standards, and regulatory compliance programs.

COAs, LOT Codes & Traceability

A Certificate of Analysis (COA) is a laboratory document that reports testing results for a specific production batch. LOT codes are used for production tracking and traceability throughout manufacturing and distribution processes.

Heavy Metals & Microbial Testing

Testing programs may screen for lead, mercury, cadmium, arsenic, yeast and mold, Salmonella, and E. coli. Testing protocols and standards can vary depending on jurisdiction, manufacturer practices, and product category.

