

AGRIPHARMATECH



Ethnopharmacognosy—not even a word in Wikipedia!

What exactly is Ethnopharmacognosy? It's Nature's plant-based medicines that ethnic peoples around the world have derived and used for centuries. Today, highly sophisticated machines can determine the specific vitamin content, and medicinal properties of any plant sample.

The outcome of this work will ensure that students who want to create their own businesses and offer consumers nature-based products will know how to achieve their goal. One day you might see Windward Community College students creating plant-based medicinal products such as lotions, soaps, perfumes, chewing gums, tooth powder, teas, value-added wines and beer, tonics, coagulant pouches and hundreds of other products just waiting to be created. In addition, students will create plant-based food items such as medicinal and nutritious pastas, udon, candy bars, dehydrated fruit bites, and hundreds of other nutritious food-based products.

To ensure Hawai'i is a leader in the advanced science and technology fields, Dr. Inge White, Professor of Botany and Microbiology, recently introduced an Agripharmatech program at Windward Community College.

This program will create a highly skilled workforce for the many organic plant-based product labs and plant biotech businesses throughout our islands. This fall, WCC will offer a Certificate of Achievement in Agripharmatech with two specializations: Plant Biotechnology and Ethnopharmacognosy.

Agripharmatech Program Objectives:

- Provide a skilled workforce in plant biotechnology and plant-based manufacturing through education, research/training,
- Facilitate student transfers to higher degree institutions majoring in biosciences (plant/microbial biotechnology, plant molecular phylogenetics, bioinformatics, ethnobotany, horticulture, nutraceuticals, biomedical, and green pharmacy), and
- Promote agribusiness-bioprocessing entrepreneurship.



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Workforce in Plant Biotechnology Specialization:

Students will secure jobs as plant biotechnicians, microbial biotechnicians, tissue culturists, assistant researchers in plant biological sciences, orchid molecular phylogenetic technicians, orchid hybridizers, plant biology teachers, plant nursery managers, plant conservationists, horticulturists, and agriculture inspectors.

Workforce in Ethnopharmacognosy Specialization:

Students will secure jobs as plant-based product technicians, pharmacognosy research technicians, nutraceutical specialists, plant biology teachers, plant nursery managers, organic farmers, plant conservationists, ethnobotanists, agriculture inspectors, food product managers/inspectors, and dietician/health-food specialists.

There are 2,296 agriculture farms on O'ahu, 250 of which are certified plant/orchid nurseries, including tissue culture labs. In addition, over 45 large biotechnology companies are operating in Hawai'i, providing 1,700 jobs. Plant biotechnology businesses offer higher wages and benefits to their highly skilled employees.

Agripharmatech-related jobs project a need of 41,000 additional employees by 2016 nationwide. The market for herb and herbal product sales in the U.S. reached a peak in 1998 of \$700 billion. Nutraceutical product enterprises could provide a positive impact on our state economy.

The Plant Biotechnology And Ethnopharmacognosy Programs Need Your Commitment

- A new pharmaceutical/nutraceutical plant-based product lab (a small building) located by the Bioprocessing Medicinal Garden Complex: \$10,000,000
- A fence/security for the Bioprocessing Medicinal Garden Complex: \$30,000
- Student internships and scholarships (for six to 10 students): \$1,000/student
- Student travel(2 students) to give presentations at scientific conferences: \$4,000/student



“The Agripharmatech program has helped me to further my study in botany and prepared me to enter the workforce in tissue culture, plant biotechnology and other plant related fields.”

—**Leslie Baker, Agripharmatech student and 2011 Masaki & Momoe Kunimoto Memorial Award recipient**

“Dr. White is an inspiration to her students. She has told me she watches her students like a hawk from the moment they begin a semester with her. She requires top-notch work from each and every student. Inge knows that what they gain in her class will lead to a higher degree or a business of their own, and ultimately a better life for themselves and their families.” —**Doug Dykstra, Chancellor, Windward Community College**

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