Plant Biotechnology Academic Subject Certificate at Windward Community College
ASC Plant Biotechnology (26 credits)

- Produce skilled biotechnologists (workforce)
- Promote agri-bioprocessing entrepreneurs
- Prepare academic transfer to higher degrees in biotechnology, bioinformatics, agriculture, horticulture, botany, biology, aquaculture, medicine and pharmacy.
Plant Biotechnology Program & Facilities supported through USDA grants

1. Kuhi La’au - Tropical Plant & Orchid Identification Facility
2. Tissue Culture and Plant Biotechnology Laboratory
3. Climate-Controlled Greenhouse
4. Bioprocessing-Medicinal Garden Complex
Laboratory Activities

- BOT 101 (General Botany/Lab)
- MICRO 140 (Microbiology Lab)
- AG 152 (Orchid Culture)
- BOT 199/299 (Independent Study)
- BOT 205 (Ethnobotanical Pharmacognosy)
- BOT 210 (Phytobiotechnology)
- BIOL 275 L (Cell and Molecular Biology)
Student Research Internships
Collaborative Research with: UHM, HARC, Private Industries
Impact:

- 45 ASC-PB graduates to date (38% are Native Hawaiians)
- 42% of graduates have entered agribiotech workforce
- 76% of graduates have transferred or received higher degrees
- 24% of graduates have become agribioprocessing entrepreneurs
Impact (cont.):

Collaborations with:

- HARC (15 students have been trained in biotech research)
- Biotech industries (30 students have been employed/become entrepreneurs)
- UHM & UHH (34 students have been transferred)
- UAF-Kuskokwim (2 students, Ethnobotany & Pharmacy majors)
Impact (cont.):

- 8,000 AA Liberal Arts students have been educated through courses offered for the ASC-PB

- 2000 high school students and community members have gained awareness of pharmaceutical/nutraceutical research and bioproduct manufacturing through BMGC since its opening in June 2007
Impact (cont.):

Publications:

- 2 volumes of Ethnopharmacognosy Series
  - [http://windward.hawaii.edu/people/Ingelia_White/Sweet_Potato.html](http://windward.hawaii.edu/people/Ingelia_White/Sweet_Potato.html)
  - [http://windward.hawaii.edu/people/Ingelia_White/Honohono_grass.html](http://windward.hawaii.edu/people/Ingelia_White/Honohono_grass.html)
- 16 scientific articles
- 12 scientific posters
Future direction:

- Number of students declaring major in Plant Biotechnology has increased by 33.3%
- In Fall 2010, ASC-PB will be changed to a BOR-approved Certificate of Achievement in Plant Biotechnology
Thank you

Ingelia White PhD
Coordinator, Plant Biotechnology Program
ingelia@hawaii.edu
808-236-9102