Introduction

Hector R. Valenzuela

The picture for the vegetable crops industry in Hawaii is changing on a daily basis. For example, vegetable crops acreage under production in Oahu almost doubled from about 1,000 acres in 1994 to about 1,900 acres in 1995. Overall, vegetable growers in the state produced over 82 million pounds of produce in 1995, compared to 73 million pounds in 1994 (DOA, Sept. 12, 1996). Many small-scale production operations have sprouted in several areas of the state including Mililani, Waialua, and Ewa in Oahu, and Hamakua in Hawaii. As new ag lands continue to become available for diversified agriculture this trend is likely to continue. New and existing farm operations are facing many new challenges, particularly regarding the stability of the produce markets. Other concerns include the existence of complex marketing distribution channels, costly land, labor, water, and transportation, pests and diseases.

At a time like this, it becomes increasingly important for new and established growers to make use of all of the resources available to them that may best prepare them to meet all of these important challenges.

More than ever, it is important that growers keep updated with new production information by reading ag trade magazines and extension publications, and by attending educational seminars.

It is important that growers continue to network and organize with fellow growers, by participating in commodity associations and in the Farm Bureau, to keep updated with local issues of interest to the farming community. It is also important that growers network and keep in touch with the CTAHR Cooperative Extension Service. While it is not possible for CTAHR to focus equally on the more than 150 vegetable crop commodities grown locally, the College does have a wealth of background research data and information which may be relevant to the crop you are interested in growing. Keep in touch with your local Vegetable Crops County Extension Agent and with the CTAHR Extension Specialists. We need to be updated with possible serious problems in the field (nutrient problems, new pests), which allows us to develop timely and pre-emptive action plans. An active communication link, and information networks between the Vegetable Crops Industry, CTAHR, and other sister state agencies will result in a smoother and timelier flow of information from the farm to the researcher, and from the research laboratory to the farm.

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1. College of Tropical Agriculture and Human Resources (CTAHR)  
* University of Hawaii at Manoa

**Cooperative Extension Service**  
**Oahu County**

*Kaneohe Office*  
45-260 Waikalua Road  
Kaneohe, HI 96744  
Telephone: (808) 247-0421

*Wahiawa Office*  
910 California Avenue  
Wahiawa, HI 96786  
Telephone: (808) 622-4185

*Pearl City Office*  
962 Second Street  
Pearl City, HI  
Telephone: (808) 453-6055

**Extension Specialists**

* **Agriculture & Resource Economics**  
  * Marketing Ag. Products  
    * John Halloran: (808) 956-7692  
    * Stuart Nakamoto: (808) 956-8125

* **Agronomy & Soil Science**  
  * Soil Fertility  
    * Position is Vacant Hilo, (808) 935-2885  
  * Environmental Quality  
    * Carl Evensen: (808) 956-8825  
  * Crop Production  
    * I. Scott Campbell, (808) 956-6971  
    * Weed Science (Kona)  
    * Philip Motooka: Kona, (808) 324-0488

* **Biosystems Engineering**  
  * Michael Williamson: (808) 956-8806

* **Environmental Biochemistry**  
  * Pesticide Registration  
    * Michael Kawate: (808) 956-6008  
  * Pesticide Education/Safety/Training  
    * Charles Nagamine: (808) 956-6007

* **Entomology**  
  * Ronald Mau: (808) 956-7063  
  * Urban Entomology  
    * Julian Yates III, (808) 956-6747

* **Food Science & Human Nutrition**  
  * Aurora Hodgson: (808) 956-6564

* **Horticulture**  
  * Vegetable Crops  
    * Hector Valenzuela: (808) 956-7903  
    * Banana, Papaya, Exotic Fruits  
    * Chian-Leng Chia: (808) 956-7899  
    * Coffee, Macadamia, Guava  
    * H.C. Bittenbender: (808) 956-8389  
  * Weed Science  
    * Joseph DeFrank: (808) 956-8050  
    * Ornamental Floriculture  
    * Kenneth Leonhardt: (808) 956-8909  
    * Landscaping  
    * David Henlsey: (808) 956-2150

* **Plant Pathology**  
  * Stephen Ferreira: (808) 956-2840

**The Educational Resource Library and the Urban Garden Center**  
Cooperative Extension Service  
962 Second Street  
Pearl City, Hawaii  
Telephone: (808) 453-6050  
* Agricultural Publications  
* 30-Acre Display Garden  
* Tours  
* Classes
Other CTAHR Offices:
Publications and Information Office
* Publication Request Line: (808) 956-7046

Horticulture Seed Lab
Department of Horticulture
3190 Maile Way, Room 112
Honolulu, HI 96822
Phone: (808) 956-7890
* Certain seeds available for sale

Agricultural Diagnostic Service Center
1910 East West Road
Sherman Lab 134
Honolulu, HI 96822
Phone: (808) 956-6706
* Chemical Analyses of Soils
* Insect Identification
* Plant Disease Identification
* Chemical Analyses of Plant Tissue
* Chemical Analyses of Irrigation Water and Nutrient Solutions

2. Some Sources of Agricultural Credit

State of Hawaii
Hawaii Department of Agriculture
Agricultural Loan Program
Agricultural Loan Division
1428 S. King Street
P.O. Box 22159
Honolulu, HI 96823-2159
Phone: (808) 973-9460

* New Farmer Loans
* Farm Ownership and Improvements
* Soil and Water Conservation Loans
* Farm Operating Loans
* Emergency Loans
* Loans to Cooperatives and Corporations
* Insured Loans

USDA, Rural Development
99-193 Aiea Heights Drive, Suite 156
Aiea, Hawaii 96701
Telephone: (808) 483-8600
Fax: (808) 483-8605
Formerly Farmers Home Administration (FmHA). Assists rural individuals and families with various credit programs (guaranteed Rural Housing Loan, Home Ownership Loan, etc.).

Commercial Banks, Savings & Loans, Credit Unions, etc.

3. Other USDA Offices

USDA, Natural Resource Conservation Service
Honolulu Field Office
99-193 Aiea Hts. Drive, Suite 207
Aiea, Hawaii 96701
Telephone: (808) 483-8620
Fax: (808) 483-8615
Formerly Soil Conservation Service (SCS). Agency responsible for providing technical planning assistance for natural resource conservation measures. Assists with Conservation Plans for individuals and group landowners or users. Works with FSA in establishing natural resource conservation measures.

USDA Animal Damage Control
3375 Koapaka St, Suite H420
300 Ala Moana Blvd.
Honolulu, HI 96850
Telephone: (808) 861-8575
* Wild pigs, birds, etc.

USDA Agricultural Cooperative Service
154 Waianuenue Avenue, Room 305
Hilo, HI 96720
Telephone: (808) 935-3701
* Assist with forming Agricultural Cooperatives

Have You Seen?
The 1996 Hawaii Farmer Chef Wholesaler Source Book: A guide to locating buyers and sellers of local products. Prepared by the State of Hawaii Dept. of Ag. in collaboration with the University of Hawaii, College of Tropical Ag. and Human Resources. To obtain a copy or to be included in future editions contact: Hawaii’s Farmer-Chef-Wholesaler Source Book Project, Market Development Branch, Hawaii Dept. of Agriculture, 1428 So. King St., Honolulu, HI 96813, fax 808-973-9590, e-mail: caolive@elele.peacesat.hawaii.edu.
4. State Department of Agriculture

Hawaii Agricultural Statistics Service
P.O. Box 22159
Honolulu, HI 96823-2159
Office: 1428 S. King St.
Telephone: (808) 973-9588
* Statistics of Hawaiian Agriculture
* Crop Production Reports
* Floriculture & Nursery Product Reports
* Weekly Crop Weather Information
* Agricultural Labor & Wage Rates

Market News Service Branch
P.O. Box 22159
Honolulu, HI 96823-2159
Phone: (808) 973-9578
* Honolulu Wholesale Market Report
* Fresh Fruit & Vegetable Market News
* Weekly Honolulu Arrivals
* Ornamental Crops Market News
* Egg, Poultry, Pork and Beef Market News
24 hr. Ag. Market Recording (Honolulu Wholesale Market): (808) 973-9581

Marketing Division, Commodities Branch:
* For produce grading standards, etc.
Commodities Branch Manager Telephone: 973-9563
Fresh Fruit & Vegetables Telephone: 973-9566

Telephone numbers to other Hawaii Dept. of Agriculture Offices
Waimanalo Irrigation System 259-7193
Agricultural Parks Branch 973-9476
Market Development Branch 973-9595
Measurement Standards Inspectors 548-7154
Plant Pest Control Section 973-9522
Biological Control Section 973-9524
Survey/Exploratory Entomologist 973-9529
Plant Pathology Lab 973-9546
Chemical/Mechanical Control 973-9538
Plant Quarantine Branch 548-7175
Airport Plant Quarantine Office 836-3827
Pesticides Program Manager 973-9401
Pesticides Inspectors, Registration 973-9401
Pesticides Inspectors, Enforcement 973-9401

5. Hawaii Department of Health

Mosquitoes & Rodents 548-8484
Sanitation Branch 548-3225

6. Poison Center 941-4411

7. National Weather Service

Recorded Forecasts
Honolulu, 973-4380
Oahu, 973-4381
Marine, 973-4382

8. Produce Wholesalers and Retailers, Farm Equipment, Farm chemicals, Farm supplies, etc.

SEE Telephone Directory under these and other listings:

- Agricultural Chemicals
- Agricultural Consultants
- Agricultural Marketing
- Farm Equipment
- Farm Equipment Repairing and Parts
- Fertilizer Applicators
- Fruit & Vegetable Brokers
- Fruit & Vegetable, Growers and Shippers
- Fruit & Vegetable, Retail
- Fruit & Vegetable, Whsle
- Greenhouse Builders
- Greenhouse Equipment & Supplies
- Irrigation Systems and Equipment
- Mushrooms
- Produce, Retail
- Produce, Wholesale
- Spraying, Equipment
- Garden & Lawn Equipment
- Seeds & Bulbs, Retail
- Seeds & Bulbs, Wholesale
- Soil Conditioners
- Top Soil

UH-CTAHR Guides for Commercial Vegetable Growers available from your local County Extension Office for production of:
1. Tomato
2. Cucumber
3. Sweetpotato
4. Basil
5. Ginger
9. Leaflets available on request

University of Hawaii, CTAHR, Seed Order Request Form
Agricultural Diagnostic Service Center Fee Schedule
CES Soil Testing Service Form Soil Record Sheet
Agricultural Diagnostic Service Center Form 357
How To Take A Soil Sample
Hawaii Cooperative Extension Service Publications:
Beans
Tomatoes
Winged Beans
Watermelon Production
Bell Pepper
Hydroponics
Broccoli
Care For Your Garden-Use Windbreaks
Mustard Cabbage
Windbreaks, Green Manure, Cover
Carrots
Crops
Cauliflower
Soil Reaction (pH)
Sweet Corn
The pH Preference of Plants
Cucumber
Eggplant
Edible Ginger Culture
Lettuce
Onions
Edible-Podded Pea
Irish Potatoes
Vegetable Soybeans
Summer Squash
Sweet Potatoes
Upland Taro
Dryland Taro Production Under Mulch
Vegetable Growers Newsletter
List of Available Publications
Celebrating the Past, Cooperative Extension Service
Farm Bureau has these pluses for you

10. Some Agricultural Organizations

Hawaii Farm Bureau Federation
2343 Rose Street
Honolulu, HI 96819
Telephone: (808) 848-2074
* A non-profit, non-governmental, voluntary organization
* Analyzing problems and formulating action to ensure the future of agriculture
* Pesticide Awareness, Taxes, Land use, Water, Marketing Issues
* Discount Programs
* Newsletter
* Hawaii Pesticide Registrations Database
* Etc.

Hawaii Organic Farmers Association (HOFA)
P.O. Box 984
Haiku, Hawaii 96708
(808) 573-0995 (Phone and Fax)
* Organic Certification
* HOFA Organic Guidelines Certification Handbook (for $20 at above address.
* Field Days, Workshops
* Data-base for Members

Oahu Banana Growers’ Association
Mr. Scott Chun, President
c/o CTAHR-CES
45-260 Waikalua Road
Kaneohe, HI 96744
Tel: (808) 247-0421
Fax: (808) 247-1912

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Chemical News
◊ Gramoxone Extra (Zeneca) supplemental label, special local need (24(c)) registration EPA SLN No. HI-960003 in Hawaii now allows precision directed spray on cucumber, melon squash, and pumpkin for control of spiny amaranth, morninglory, purslane, and seedling guinea grass. Contact J. DeFrank at 808-956-5698, fax 808-956-3894, defrenk@hawaii.edu for a copy of the supplemental label.
Videos available at Cooperative Extension Offices, UHM

For information on availability call:
Oahu, Kaneohe 808-247-0421
Maui, 808-244-3242
Hawaii, 808-959-9155
Kauai, 808-274-3471

Title Availability by Island
(KA=Kaneohe, KI= Kauai, HA= Hawaii)
1993 Vegetable TeleConference, CTAHR, sweetpotato whitefly, diamondback moth, marketing (all islands)
1994 Vegetable TeleConference, CTAHR, 2 tapes, weed control, alternative pest control, fertilizer recommendations, virus/nematode control (all islands)
The Agricultural Research Reports- New Markets, New Uses, and New Crops (Kaneohe)
Alive & Well: Sustainable Soil Management, Univ. Calif. (Kaneohe)
Asparagus Production Seminar, 3/15/96, CTAHR (All islands)
Azolla for Weed Control in Wetland Taro (Kaneohe, Kauai)
Benlate: A million dollar mistake? (Kaneohe, Kauai)
The Coastal Non-point Pollution Program and Hawaii’s Farmers, CTAHR (Kaneohe, Kauai)
Disease Resistant Basil, CTAHR (Kaneohe)
The Dutch Auction System for Marketing Cut Flowers, CTAHR 1995 (Kaneohe, Kauai)
Endangered species and pesticides: Balancing Protection and Production, OSU (Kaneohe, Kauai)
Farm Chemical Safety is in your hands, 12/86 (NACA), (Kaneohe)
Focus in Ag: Environmentally friendly: Vegetable Crops Production/Weed Control (All islands)
Hawaii State Farm Fair, 1990, 50 min (Kauai)
Ho’olaulima for Hawaii Sustainable Agriculture (Kaneohe, Kauai)
How to Conduct Worker Protection Training (Kauai)
LISA for Hawaii 1993, Sustainable Agriculture, CTAHR (Kaneohe, Kauai)
Mechanical Weed Control (all islands)
Molokai Taro Conference, Tapes 1-3 (1990), (Kaneohe, Kauai, Hawaii)
Nalo/Soukaseum/Shiraki Farm Tours (5th Annual WSSA Conference) (Kaneohe, KI)
Nature Farming for Sustainable Agriculture, (Kauai)
New Crops, Agricultural Research Reports (Kaneohe)
Non-Circulating Hydroponics, B. Kratky, CTAHR (all islands)
Nourish the Roots, gather the leaves-Sustainable Taro Culture in the Pacific, ADAP, CTAHR (Kauai)
Organic Weed Control, DeFrank, CTAHR (Kaneohe, Hawaii)
Taking Taro into the 1990s, Tapes 1-3, CTAHR (Kaneohe, Kauai, Hawaii)
Taro Planter-Big Island/Taro harvester, Molokai (Kauai)
Taro Festival, 1994 (Hawaii)
Pesticide Handlers and the Worker Protection Standard, 8/94, MSU (Kaneohe, Kauai)
Papaya Ringspot Virus, CTAHR 3/94 (Kaneohe, Kauai)
The Science of Biological Decomposition: Effective Composting Methods (Kauai)
Solar Fruit Drying Project (Kauai)
Tulare Farm Equipment Show, Feb. 1996 (Hawaii)
Understanding Cooperative Extension Service, 3 modules (Kauai)
Vegetable Crops Field Day 6/6/96 (Kaneohe)
Wetland Taro Fertilization, Honolulu-Poi, 1996 (Hawaii)
WSAA Sustainable Agriculture Conference, 1994, Hilo (Hawaii)
Other videos available from UH-Manoa
(Horticulture Dept. at 808-956-7903)
WSAA Sustainable Ag Conference, 1992
No-Tillage Taro
1992 Organic Farming Agriculture Policies Conference

For beginning farmers: Production of leafy vegetables,
Production of Root Vegetables, Production of fruit
vegetables, Introduction to Irrigation, Introduction to
Fertilizer Management, Introduction to Postharvest
management.

FOR SALE PUBLICATIONS
Handbook: Non-circulating Hydroponic Methods by Dr.
B. Kratky, $12.95 from: DPL Hawaii, POB 6961, Hilo,
HI 96720, tel/fax 808-935-8785.

This Hawaii Product went to market: The Basics of
Produce, floral, seafood, livestock, and Processed-
Product Businesses in Hawaii, by J.R. Hollyer, J.L.
For purchasing contact: Hawaii Farm Bureau Federation,
2343 Rose St., Honolulu, HI 96819, tel. 808-848-2074,
fax 808-848-1921. Cost for Farm Bureau members and
Educational Institutions is $11 plus $4 for shipping and
handling. For non-Farm Bureau members cost is $16 plus
$4 for shipping and handling.

Corn Production in Hawaii, 1996, by Dr. J.L. Brewbaker.
Make check for $10 payable to University of Hawaii,
send to Corn Seed Trust Fund, Dept. of Horticulture,
Univ. Hawaii, 3190 Maile Way, Honolulu, HI 96822-
2279.

UPCOMING EVENTS
Hawaii Organic Farmers Association, HOFA, General
Membership Meeting, 11 January, 1996, Sunset Grill,
Oahu. For more information on time and location
contact Diana Dahl (in Maui) at 808-573-0995.

Planter/Transplanter Companies
Bra-Mar Machines Co.
King St.
RR 2 Newmarket
Ontario, Canada L3Y 4V9
905-775-7249

The Ferguson Manufacturing Co., Inc.
POB 1098
Suffolk, VA 23439-1098
804-539-3409

Ferris Farm
83 Ferris Rd.
New Wilmington, PA 16142
412-946-2973

Dwight Sato, CES Hilo
Tel. 808-959-9155, Fax. 808-959-3101, dwights@hawaii.edu

Randy Hamasaki, CES Oahu
Tel. 808-247-0421, Fax 808-247-1912

Alton Arakaki, CES Molokai
Tel. 808-567-6833, Fax. 808-567-6818

Robin Shimabuku, CES Maui
Tel. 808-244-3242, Fax 808-244-7089,
shimabukur@AVAX.CTAHR.HAWAII.EDU

Hector Valenzuela
Vegetable Crops Assoc. Extension Specialist
Tel. 808-956-7903, Fax. 808-956-3894, hector@hawaii.edu
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Reference to a company or product name does not imply approval or recommendation of the product by the Cooperative Extension Service, College of Tropical Agriculture and Human Resources, the University of Hawaii and its employees, or the United States Department of Agriculture, to the exclusion of others which may be suitable.

The pesticide information provided here should be used only as a guide. This is not a recommendation; consult an expert. Before purchasing a pesticide, the user should carefully read the entire label to determine if the pesticide is appropriate (legal) for the particular use. Labels frequently change without notice.