

## 2008 – 2010 DACUM PARTICIPANTS

### Industry Panel

Karl Arne, Retired, Office of Ecosystems, Tribal and Public Affairs, Environmental Protection Agency  
Mary Embleton, Director, Cascade Harvest Coalition  
Brad Gaolach, Director, Washington State University King and Pierce County Extension  
Erick Haakenson, Owner, Jubilee Farm  
Gretchen Hoyt, Owner, Alm Hill Gardens  
Kristian Kofoed, Senior Planner, Department of Planning and Development, City of Seattle  
Sue McGann, Manager, Marra Urban Community Farm  
Josh Monaghan, Agriculture Program Lead, King Conservation District  
David Muehleisen, Faculty, Evergreen State College  
Todd Murray, Director, Washington State University Skamania County Extension  
Mark Musick, Consultant, Next Step Resource Conservation  
Noa O'Hare, Farm Program Manager, Pike Place Market Preservation and Development Authority  
Laura Niemi, Garden Program Manager, Seattle Tilth Association  
Keith Possee, Gardener, University of Washington  
Jonathan Scherch, Faculty, Environment and Community Program, Antioch University  
Phyllis Shulman, Legislative Assistant, Council President  
Richard Conlin, City of Seattle

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### Seattle Central Community College

Katie Chenu, Faculty, Earth and Environmental Science Department  
Rebecca Hartzler, Former Dean, Science and Math Division  
Debbie McLaughlin, Faculty, ESOL/I-BEST Program  
Jason Niebler, Director and Faculty, SAge Program  
Grace Sparks, Faculty, Biology Department

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### Consultants

Dr. Rick Parker, Director, AgrowKnowledge  
Deb Klopp, Curriculum Specialist, AgrowKnowledge

# DACUM chart for Food Systems Technician

Sustainable  
Agriculture  
Education



# SAge

*Technological Education  
for Sustainable Bioregions*



**SEATTLE  
CENTRAL**  
community college

Facilitated by:

**AgrowKnowledge**

*The National Center for Agriscience & Technology Education*

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not necessarily those of the Foundation.*



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**DACUM: Urban Food Systems Technician** participants incorporate specific math and science skills and technologies.

**Preliminary Observations**

The Sustainable Agriculture Education (SAGe) team at Seattle Central Community College submitted a proposal to the National Science Foundation for a \$157,375 project grant. The full proposal was submitted in October 2008 and funds were dispersed in May 2009. AgrowKnowledge assisted SAGe with the design and hosting of a Strategic Planning Institute and DACUM workshop in August 2008.

The objective of the DACUM was to understand educational skill standards as a benchmark for performance and workforce success using the broad position description of Urban Food Systems Technician. More specifically, the DACUM served as an opportunity to identify specific duties, tasks, knowledge and skills that key stakeholders believe should be expected of graduates earning two-year Associate degrees in this field.

Participant commentary was compiled from the DACUM workshop as well as focus groups and strategic planning and technical advisory committee meetings. Participants believe there is a great deal of opportunity for entrepreneurial or self-employed work in the future of urban food systems and natural resource conservation.

The SAGe team revised the original document after consultation with private, academic and community

**Technician Employment**

**Two-year Associate degree, Emphasis in Sustainable Agriculture**

**Production/Entrepreneur**

- New urban/rural farmer
- Value-added business including agritourism
- Landscaping and permaculture design
- Plant propagation or nursery
- Cottage industry food processing

**Consultant**

- Farm planner/advisor (identify funding opportunities, new markets and outreach opportunities; communicate farm bill changes)
- Agricultural supplies retailer
- Standards certifier
- Urban/rural restoration horticulture
- Food safety consultant
- Restaurant connections
- Crop advisor program
- Irrigation specialist
- Soil fertility/biosolids management or remediation
- Pest management and pest scouts
- Small machinery specialist
- Agricultural shifts for climate change
- Transitioning our society (jobs at the city and regional level in terms of land use, planning, marketing)
- Community organizing and planning
- Commons such as parks transformed into food production
- Local, sustainable approaches to growing food

Farm assessor regarding socio-political changes  
Localizing processing/distribution facilities  
Assist with farm-to-institution initiatives and sourcing  
Resource conservationists/specialists  
Community gardening outreach/marketing to executive directors

**Management**

Farm manager  
Greenhouse manager  
Community supported agriculture program manager  
Education program manager  
Events manager

Farmers market manager/worker  
Retail produce manager/worker  
**Non-profit**  
Non-profit/advocacy organizations  
Government staff/agency aide in related fields  
Stewardship partners  
Food bank networks associated with social goals or food distribution  
Apprenticeship/internship/volunteer coordinator  
Peace Corps

**Bachelor degree**

**Post two-year Associate degree,  
Emphasis in Sustainable Agriculture**

**Consultant/Technician**

Forestry or fisheries technician  
GIS specialist

Farm planner/advisor (identify funding opportunities, new markets and outreach opportunities, communicate farm bill changes)

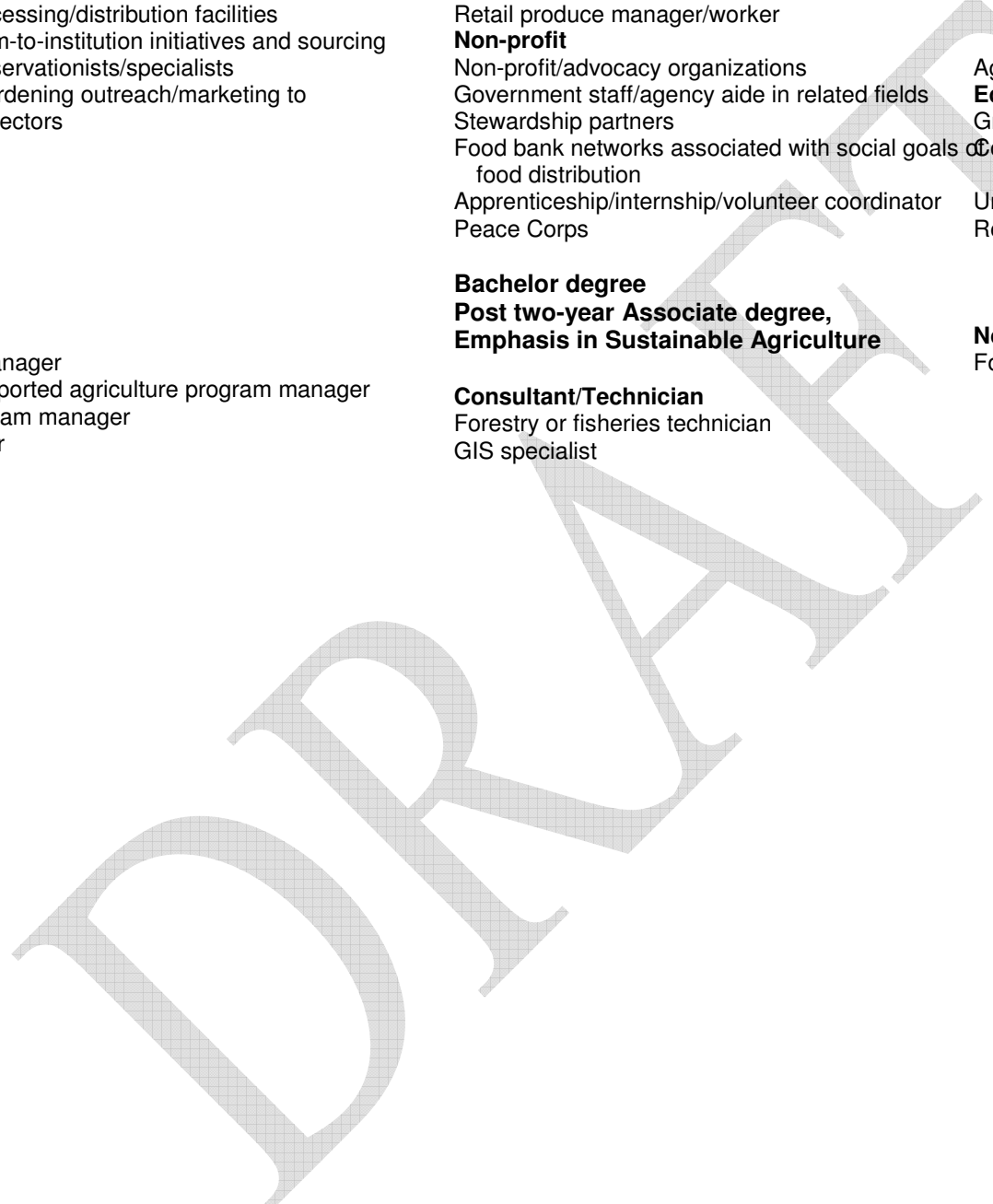
Agricultural consultant

**Education/Research**

Graduate student  
Community, school or youth garden program coordinator  
University Extension program manager/coordinator  
Researchers and professionals working in social services, public health, environmental studies, international development, food aid, poverty alleviation, and other fields

**Non-profit**

Food Policy Councils



## DACUM: Food Systems Technician

DUTIES	TASKS				
Manage Land & Production Resources	<b>A1</b> Propagate, harvest, maintain seasonally appropriate, diversified plants and livestock	<b>A2</b> Manage soil fertility, water and pest-control	<b>A3</b> Identify and diagnose soil, plant and livestock problems	<b>A4</b> Safely operate and maintain scale relevant tools, equipment and technology	<b>A5</b> Manage post-harvest products
	<b>A-6</b> Operate and manage greenhouses	<b>A-7</b> Maintain production records	<b>A-8</b> Utilize service providers (e.g. conservation districts, extension and other educators, etc) in resource management	<b>A-9</b>	<b>A-10</b>
Read & Interpret Technical Data	<b>B1</b> Assess and quantify land and resources, including energy audit	<b>B2</b> Identify and comply with applicable city, state and federal laws, programs and policies	<b>B3</b> Calibrate equipment	<b>B4</b> Identify problems, research options and administer solutions	<b>B5</b> Calculate application rates (nutrients, pesticides, herbicides)
	<b>B6</b> Collect and analyze data for crop certification (i.e. organic, salmon safe)	<b>B7</b> Use computer modeling to aid resource conservation (i.e. evapotranspiration)	<b>B8</b>	<b>B9</b>	<b>B10</b>
Perform Business	<b>C1</b> Recruit, lead, manage and resolve conflicts for staff and volunteers	<b>C2</b> Develop and maintain budgets	<b>C3</b> Create marketing and promotional materials, including website/blog and newsletter	<b>C4</b> Create and perform ongoing evaluation of business plan	<b>C5</b> Identify and acquire ongoing sources of funding including writing grants

<b>Management Tasks</b>	<b>C6</b> Perform market research	<b>C7</b> Manage business and data records	<b>C8</b> Complete tax records	<b>C9</b> Research and acquire appropriate insurance	<b>C10</b> Manage time effectively
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**DACUM: Food Systems Technician**

**DUTIES**

**TASKS**

<b>Educate &amp; Inform Constituents</b>	<b>D1</b> Bridge urban and rural markets	<b>D2</b> Develop cultural awareness to the groups for which services are provided	<b>D3</b> Gather and prepare educational materials appropriate for intended audiences	<b>D4</b> Educate consumers about food and food production systems	<b>D5</b> Work with youth, school gardens, neighborhoods, funders, and communities
	<b>D-6</b> Engage the community in food production	<b>D-7</b> Educate consumers about the Farm Bill and other national policies that affect farming	<b>D-8</b>	<b>D-9</b>	<b>D-10</b>
<b>Develop &amp; Enhance Stakeholder Relations</b>	<b>E1</b> Identify and respond to customer needs	<b>E2</b> Maintain effective interpersonal relationships	<b>E3</b> Identify and respond to stakeholder needs (adjacent landowner, industries, community, organizations)	<b>E4</b> Conduct outreach	<b>E5</b> Represent and promote the organization
	<b>E6</b> Communicate effectively with a diverse audience using appropriate media	<b>E7</b> Attend and participate in professional networks and local and regional meetings	<b>E8</b> Participate in local conservation commissions and NRCS local working groups and State Technical Committee meetings	<b>E-9</b> Use diplomacy in interactions with governmental agencies	<b>E-10</b>
	<b>F1</b> Identify systems components and	<b>F2</b> Understand applicable city, state and federal	<b>F3</b> Participate in training; obtain and maintain	<b>F4</b> Map system flow using technology	<b>F5</b> Identify relevant licensures, and obtain

Conduct Systems Assessments	interactions	legislation	appropriate certifications	(i.e. LabQuest devices, GIS/GPS, etc).	those required to carry out responsibilities
	<b>F6</b> Develop and assess a strategic plan	<b>F7</b>	<b>F8</b>	<b>F9</b>	<b>F10</b>

## DACUM: Food Systems Technician

### Acronyms

ATTRA: National Sustainable Agriculture Information Service  
 BURSST - for Prosperity (Burien, Renton, SeaTac, Skyway and Tukwila)  
 CAO/SAO: Critical Areas Ordinance (City of Seattle)/ Sensitive Areas Ordinance (King Co.)  
 CSA: Community Supported Agriculture  
 CSREES: Cooperative State Research Education and Extension Service  
 CUH: Center for Urban Horticulture  
 DDES: Dept. of Development and Environmental Services (King Co.)  
 DNR: Depart. of Natural Resources  
 DNRP: Dept. of Natural Resources and Parks (King Co.)  
 DOE: Depart. of Education  
 EBT: Electronic Benefits Transfer  
 EPA: Environmental Protection Agency  
 ESL: English as a Second Language  
 ESRI: Environmental Systems Research Institute, Inc.  
 FSNEP: Food Stamp Nutrition Education Program  
 GIS: Geographical Information Systems  
 GMA: Growth Management Act  
 GPS: Global Positioning Systems  
 HCCP: Health Control Critical Points  
 IPM: Integrated Pest Management  
 KCD: King Conservation District  
 KCFFI: King County Food and Fitness Initiative  
 MSDS: Material Safety Data Sheets  
 NEPA: National Environmental Policy Act  
 NSF: National Science Foundation  
 OSPi: Office of Superintendent of Public Instruction  
 PCC: Puget Consumers Cooperative  
 QAQC: Quality Assurance/Quality Control

SAgE: Sustainable Agriculture Education  
 SARE: Sustainable Agriculture Research and Education  
 TESC: The Evergreen State College  
 USDA: United States Depart. of Agriculture  
 UW: University of Washington  
 VESL: Vocational English as a Second Language  
 WLRD: Water and Land Resources Division  
 WSDA: Washington State Dept. of Agriculture  
 WSDC: Washington State Dept. of Commerce  
 WSU: Washington State University

### Tools, Equipment, Supplies, & Materials

#### Technical hardware

Vernier LabQuest devices and probes  
 GPS/GIS devices  
 Soil testing equipment  
 Electricity generation devices

#### Software

Microsoft Office  
 ArcGIS  
 ArcPad

#### General equipment

Climate data collection (i.e. weather station; rain gauge; etc.)  
 Construction and welding equipment  
 Greenhouse infrastructure  
 Food production-relevant tools and equipment  
 Biofuel production  
 Irrigation equipment  
 Compost systems  
 Growing season extension equipment  
 Value-added food processing (i.e. fermentation; preservation; etc.)  
 Office equipment  
 Hand lens  
 References for plant identification  
 Soil sampling equipment

**Licenses/Certifications**

Biodynamic Certification  
Master Gardener/Preserver  
Organic Certification  
Pesticide License  
Food Handler’s Permit  
Food Alliance and other eco-labels

systems  
Possesses organizational skills  
Able to plan strategically  
Good communicator in verbal and written forms  
Comfortable giving presentations  
Physically-fit to meet work demands  
Willing to work outside in inclement weather  
Able to pass a drug test

**Future Trends and Concerns**

Movement toward entrepreneurial enterprises  
Expanding employment opportunities  
Food policy council initiatives  
Technology application to small-scale farming  
K-12 agricultural curriculum and school gardens  
Michelle Obama’s activities and new foundation  
Public Health emphasis on obesity  
Increase in local processing

New cooperative efforts  
Ecological design and permaculture techniques  
Urbanization, immigration and population growth throughout Puget Sound  
Awareness of global food systems and issues  
Urban food security issues  
Social and environmental justice initiatives towards equality in food security  
Budgetary restraints or cuts  
Loss of experienced personnel in agriculture  
Regulatory protocol that continually responds, updates and documents agricultural development  
Natural disasters and emergency aid  
Climate change and impacts on timing and availability of water in the Pacific Northwest

**Work Behaviors**

Commitment to social justice  
Hardworking, ambitious, dependable, self-directed  
Capable of working independently and in a team  
Respects a wide range of perspectives and belief

