



Urban and Innovative Agriculture 101

What the USDA is doing now - Part 1
of 10



Arkansas Interfaith Power and Light

Building a Network of Growers to Improve Access to Local Food
(12-month period - 2021-2022)

- 114 demonstrations and workdays
- 13 new chicken coops
- 76 new garden beds
- 25 new beehives
- 150 egg-laying chickens and ducks
- Fresh local food to 8 food pantries
- 4 new greenhouses for shared space
- Refurbished/managed 3 greenhouses
- Network grew from 43 to 240 growers
- Developed 27 new garden partnerships
- 53 students from five colleges involved



Summer Pilot Project 2022

Supported by Arkansas Community Foundation, Interfaith Arkansas, and Second Presbyterian Church
Three produce stands in low-wealth food deserts are accepting EBT cards and distributing affordable recipes.

USDA: Urban and Innovative Agriculture 101 Series

TIM BRODERICK, SENIOR SUSTAINABILITY STRATEGIST

BOULDER COUNTY'S OFFICE OF SUSTAINABILITY CLIMATE ACTION AND
RESILIENCE



Boulder County & Urban Agriculture

- ❑ 1% of state agricultural sales
- ❑ 107,043 land in farms (acres)
- ❑ 25,000 acres of boulder county agricultural open space
- ❑ Primary forms of support include programs and policies
 - ❑ Restore CO
 - ❑ Sustainable Food & Ag. Fund
 - ❑ Consumption Based Emissions Inventory



Restore Colorado: A Table to Farm Movement

Choose to support regional regenerative farming at your next meal!

How It Works:



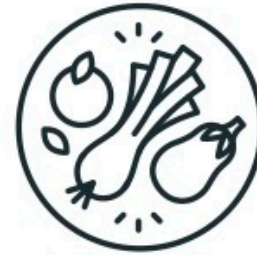
Enjoy a Meal

Eat at a Zero Foodprint restaurant —1% is going towards meaningful, local climate solutions.



Restore

Mad Agriculture and regional farmers and ranchers implement regenerative, climate beneficial practices.



Healthy Soil

Soil full of living things means healthier food for your community and carbon removed from the atmosphere.

Restore Colorado Successes



\$80,000 + generated for direct compost application to farms or ranches within the state of CO.



Regional and state partnership



30 participating organizations



5,000 + tons of CO2 sequestered



Sustainable Food & Ag. Fund

These funds support sustainability-focused initiatives that address the priority needs of local farmers and agricultural producers within five areas of need:

1. Resource support for frontline farm workers and organizations.
2. On-farm regenerative agriculture and soil health practices;
3. Farmer/producer education, conferences, and workshops that focus on sustainable and regenerative agriculture demonstrations;
4. On-farm and farmer's market infrastructure;
5. Sustainable local food and crop production

Successes

- **Total pounds of food produced:** 101,700
- **Total acres impacted:** 1,229
- **GHG sequestered (MTCO₂-e):** 534
- **Revenue generated from sale of food produced:** \$466,025
- **TOTAL NUMBER OF PROJECTS FUNDED :** 37



Consumption Based Emission Inventory

A CBEI takes a full life-cycle view of “emissions generated by the production, shipping, use, and disposal of each product consumed in a given area, regardless of where the GHG emissions were released to the atmosphere.” The inventory focuses in at the household level or sector based and estimates emissions for hundreds of categories of product depending on how structured. Paired with a traditional greenhouse gas inventory, the consumption-based study gives a comprehensive view on how its activities contribute to climate change. It is a high-resolution study, estimating emissions at the neighborhood level with emissions varying between different census block groups.



Consumption inventory

Global approach

Emissions anywhere in service of things consumed in Minnesota



In-boundary inventory

Snow globe approach

Emissions produced in Minnesota, regardless of where things are consumed

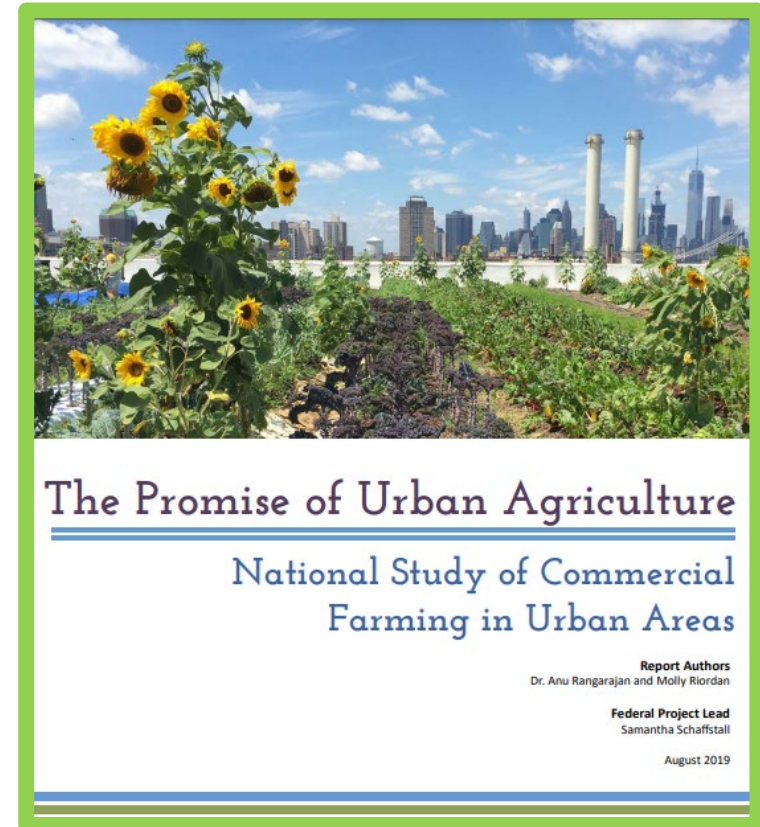


REALIZING THE PROMISE OF URBAN AGRICULTURE

ANU RANGARAJAN, CORNELL UNIVERSITY

How can urban farmers realize the promise of commercial viability?

1. Commercial urban farms often access land through exceptional or extraordinary circumstances, eliminating or reducing land costs that can be prohibitive to entering farming (urban or rural).
2. Commercial urban farms rarely depend upon the sale of agricultural products alone.
3. Commercial viability for urban farms depends upon continued demand for local food through farmer's markets, CSAs, and locally-focused restaurants and retailers.
4. Commercial urban farms cannot be all things to all people.



<https://smallfarms.cornell.edu/projects/urban-ag/promise-urban-agriculture/>

Planners Curriculum Overview

Module 1: Defining Urban Agriculture

Module 2: Determining the Value of Urban Agriculture

Module 3: Urban Agriculture in Comprehensive Plans

Module 4: Zoning Considerations for Urban Agriculture

Module 5: Creating Urban Agriculture Plans

Module 6: Effective Engagement Strategies to Plan for Urban Agriculture






Growers Curriculum Overview

Course 1: Location – Siting Commercial Farms in Urban Spaces

Course 2: Business Structuring for a Commercial Urban Farm
(How to Be Both a Commercial Urban Farm and a Social Enterprise)

Course 3: Business Strategies for Commercial Urban Agriculture





Supporting **Workforce Development in
Controlled Environment Agriculture
(CEA)**

SKILLS & TRAINING FOR INDOOR GROWERS AND FARM
MANAGERS

Cornell University, The Ohio State University
Agritecture Consulting

DACUM Research Chart for Indoor Farm Operations Manager

Produced for



**Cornell
CALs**

College of Agriculture
and Life Sciences



Produced by



THE OHIO STATE UNIVERSITY

CENTER ON EDUCATION AND
TRAINING FOR EMPLOYMENT

Prime Produce Apprentice Cooperative

New York, New York

May 7 & 8, 2019

dacum.osu.edu

DACUM Facilitators

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DACUM Observers

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Jeffrey Landau - Agriculture
Wythe Marschall - Harvard University/Cornell University

DACUM Panel

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Founder/General Manager
Farmbox Greens
Seattle, WA

Jenn Frymark
Chief Greenhouse Officer
Gotham Greens
Chicago, IL

Sarah Ann Horton
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Eco Convergence Group/Kalera, Inc.
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Brian Waller
Operations Manager
Ripple Farms
Toronto, ON

DACUM Research Chart for Vertical Farm Operations I

DUTIES

TASKS

DUTIES	TASKS			
A. Manage Crop Production	A.1 Manage crop fertigation (e.g., mixing nutrients, monitoring pH, monitoring water temp)	A.2 Perform visual crop assessment	A.3 Implement IPM plan	A.4 Implement crop-specific SOPs (e.g., propagation, transplanting, harvesting)
	A.10 Create crop production plans	A.11 Revise crop production plans	A.12 Coordinate with sales on product supply	A.13 Manage environmental controls (e.g., temp, CO2, RH)
B. Manage Farm Labor	B.1 Determine labor needs	B.2 Create employee schedules	B.3 Inform team of daily plans	B.4 Delegate planned/routine tasks
	B.10 Provide employee feedback and coaching	B.11 Participate in employee onboarding activities (e.g., hiring, interviewing)	B.12 Conduct company-specific employee training	B.13 Manage supplemental labor (e.g., interns, contractors)
C. Implement Product Safety Plan	C.1 Oversee operations hazard analysis (e.g., HACCP, prerequisite, risk assessment)	C.2 Inspect product safety control points	C.3 Implement employee product safety training program	C.4 Manage product safety audits (e.g., routine, annual)
	C.10 Implement product safety water quality management plan	C.11 Support recall plan (e.g., traceability, product, consumables)	C.12 Support approved supplier program	C.13 Coordinate product safety sampling and testing (e.g., seeds, surfaces)
D. Manage Post-Harvest Processing	D.1 Confirm customer order details (e.g., quantity, SKU, destination)	D.2 Gather production data (e.g., usable yield, waste)	D.3 Oversee post-harvest QC processes (e.g., metal detection, weights and measures, sorting)	D.4 Oversee post-harvest packaging and labeling (e.g., traceability, lot numbers)
	D.10 Manage post-harvest agricultural waste streams			
E. Oversee Distribution Logistics	E.1 Coordinate inventory with sales	E.2 Organize orders according to sales channel	E.3 Collect delivery documentation (e.g., logs, invoices, purchase orders)	E.4 Oversee delivery vehicle loading
F. Evaluate Farm Data and Metrics	F.1 Develop data strategy	F.2 Implement data collection procedure (e.g., software, tooling, process)	F.3 Support database management (e.g., clean, verify, structure)	F.4 Analyze production data (e.g., yield, loss)

Questions?