



# Green Power Solutions, Inc.

*Unlocking the power of biomass*



***AG Development for Connecticut***  
*An Environmentally Responsible Solution*



**GPS**

*A Zero Waste Organization*



**Green Power Solutions, Inc.**

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*Unlocking the power of biomass*

**GREEN POWER SOLUTIONS, INC.**

**PO BOX 501**

**WOODSTOCK CT 06281**



# GPS

## *Turning Waste into Resource*

**Green Power Solutions'** core business is to:

- Maximize the value of organic wastes through refinement into higher value products
- Maximize the diversion of organics from landfill/incineration, wastewater treatment

**Green Power Solutions** is developing production facilities to supply products for the following markets:

### Energy-

- Refined Brown Grease into the advanced biofuel supply market
- Electricity generation through the anaerobic digestion of organic wastes

### Commodity Feedstock Supplies-

- Refined Edible Greases into the feed and pharmaceutical industry
- Feed solids into the animal feed markets (including fish feed)

### Organic Fertilizers-

- Refined nutrient-rich soil amendments for use in agriculture

**Green Power Solutions** is a privately held corporation in business since 2005

- Headquartered in Woodstock, CT
- Currently developing multiple anaerobic digester facilities in New England
- Poised to begin the development of Waste Grease Extraction Facilities



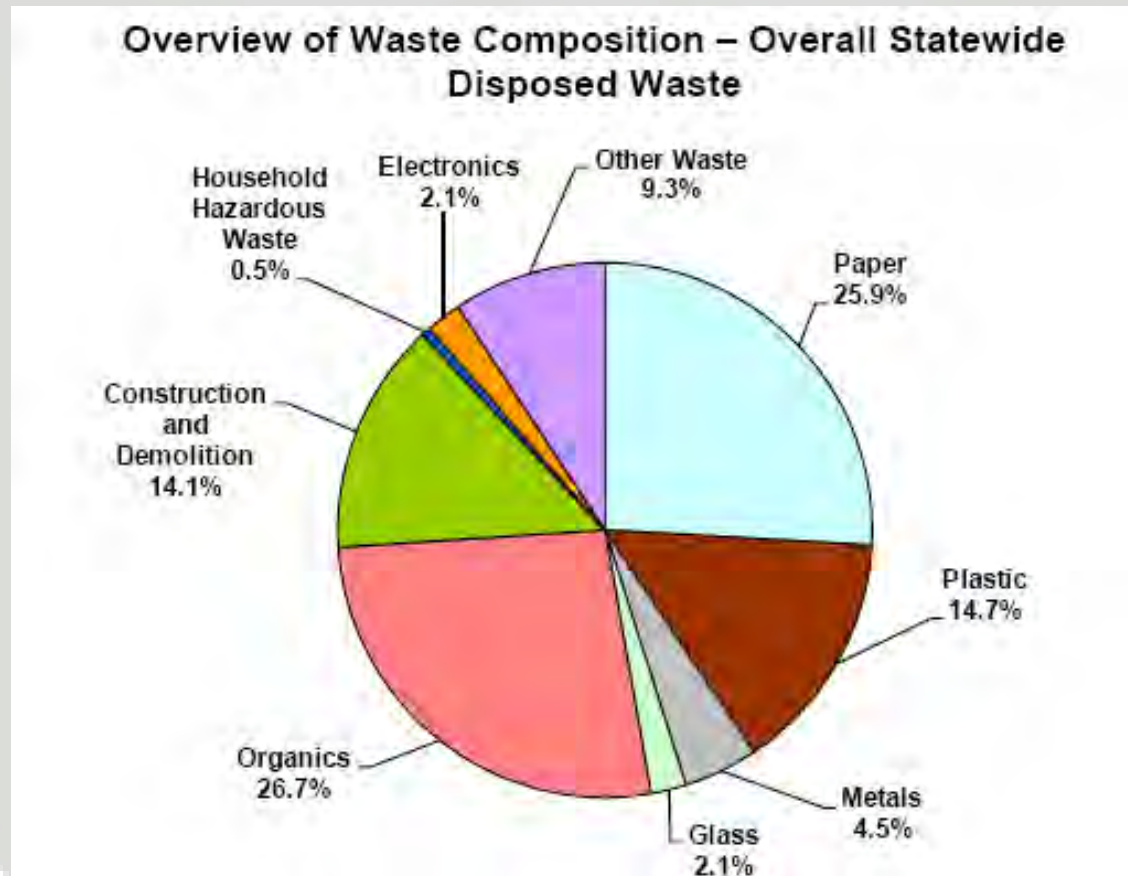
- **Two Solutions for the growth of Agriculture in Connecticut:**
  - **Organics Diversion and Nutrient Recycling**
    - Revenue Generating (Tipping Fee) Business Model
    - Reduction in fertilizer costs for on-farm use
    - Nutrient rich products for resale
  - **Anaerobic Digestion** of agricultural and food wastes
    - Revenue Generating (Tipping Fee) Business Model
    - Revenue Generating (Electricity) Business Model
    - Produces reliable **renewable energy** meeting the CT RPS
    - A GHG net reduction technology, that does more for the environment than wind or solar.
    - An instate power source that offers competitive rates



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## *The Organic Waste Opportunity (cont.)*

- **Connecticut State-wide Solid Waste Composition and Characterization Study, Final Report; May 26, 2010**
  - [http://www.ct.gov/dep/lib/dep/waste\\_management\\_and\\_disposal/solid\\_waste/wastecha\\_rstudy/ctcompositioncharstudymay2010.pdf](http://www.ct.gov/dep/lib/dep/waste_management_and_disposal/solid_waste/wastecha_rstudy/ctcompositioncharstudymay2010.pdf)





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### Ten Most Common Materials, by Weight – Overall Statewide Disposed Waste

Material	Est. Percent	Cum. Percent	Est. Tons
Food Waste	13.5%	13.5%	321,481
Compostable Paper	8.2%	21.7%	195,185
Leaves & Grass	7.2%	29.0%	172,408
OCC/Kraft Paper	5.8%	34.8%	138,240
Wood - Treated	4.7%	39.4%	111,404
Durable Plastic Items	3.6%	43.1%	86,325
Other Recyclable Paper	3.6%	46.7%	85,517
Other Film	3.5%	50.2%	83,478
Carpet	3.5%	53.7%	83,125
R/C Organic	3.2%	56.8%	75,195
<b>Total</b>	<b>56.8%</b>		<b>1,352,359</b>

### Highlights

- Nearly **500k tpy** of organics being incinerated or landfilled.
- Represents a **\$29.6 million** dollar revenue opportunity available to CT farms



### ■ **Factors Influencing Organic Waste Disposal Costs:**

- **Increasing Disposal Costs** – Gate fees for organics disposal are increasing year after year.

- **New England**

- Solid Waste disposal rates average \$75 per ton, plus transportation
  - CT is closer to \$60 a ton average
- Limited compost/feed markets exist for organic food waste
- Trap Grease/DAF Sludge disposal pricing is driven by BOD/COD limits

- **Legislative Developments** – Multiple NE States have instituted or are considering organic disposal bans

- **2010 MA DEP Draft Solid Waste Master Plan**

- Set a goal to divert 350,000 tons/yr of food waste by 2020
- Includes ban on disposal of commercial food waste starting in 2014

- **2011 State of Connecticut *Public Act No. 11-217***

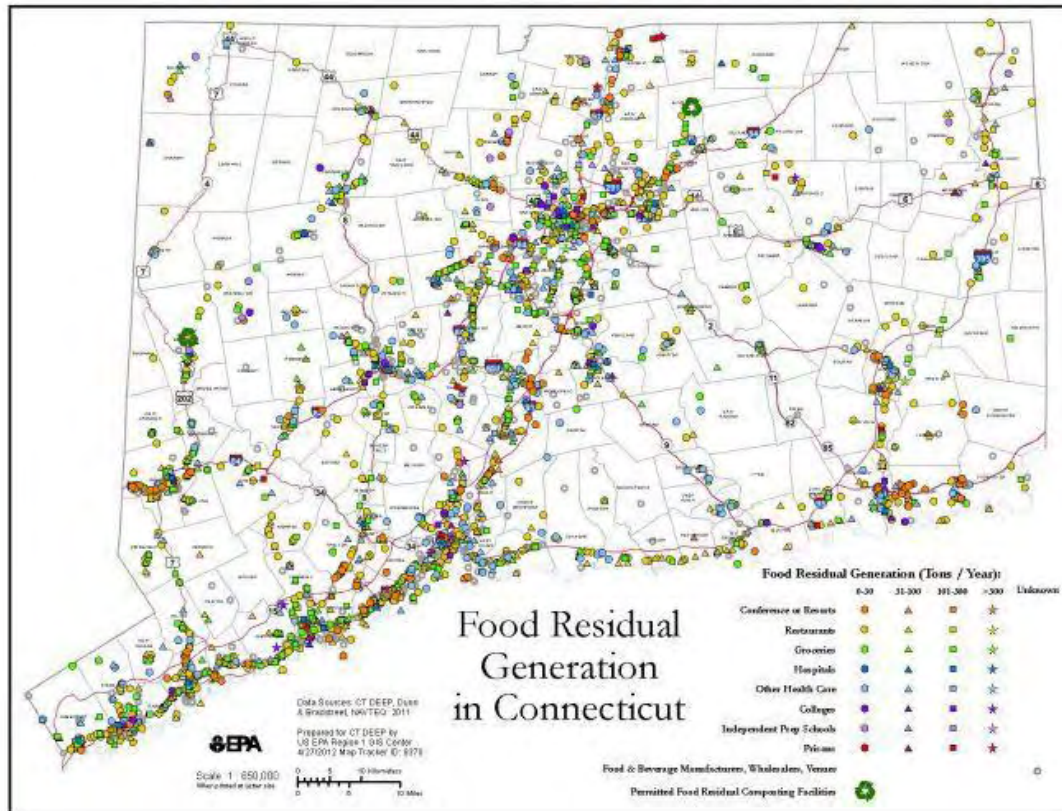
- *Current organic waste ban for commercial generators (104 tpy)*



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## The Organic Waste Opportunity cont.

- Updated Mapping of Food Residual Generation in Connecticut (Final Report, Spring 2012, EPA Region 1)



### Highlights

- Only 2 DEEP Permitted Food compost facilities on map





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## *The Anaerobic Digestion Opportunity*

### ■ Why Anaerobic Digestion (AD)

#### ■ It makes operational sense

- AD is a proven technology with high reliability
- AD handles a much broader range of materials than composting

#### ■ AD plants are proven technology

- Over 6,800 plants operating in Germany
- Over 551 operating in Austria
- Over 459 operating in France

#### ■ It makes environmental sense by

- Providing additional recycling capacity to support CT's organic waste diversion goals
- Meeting the CT Renewable energy portfolio standards (RPS)
- Reducing GHG emissions





### ■ The competitive pricing of Anaerobic Digestion (Vermont FIT)

YEAR	2	3	4	5
SOLAR PV	0.271	0.271	0.271	0.271
HYDRO	0.119	0.119	0.12	0.121
LANDFILL GAS	0.087	0.087	0.088	0.089
FARM METHANE*	0.136	0.137	0.137	0.138
WIND OVER 100kW	0.113	0.113	0.114	0.114
WIND 100kW OR LESS	0.245	0.246	0.247	0.249
BIOMASS	0.121	0.121	0.122	0.123

\* Farm methane does not include REC values



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## The Anaerobic Digestion Opportunity (cont)

- **The Fairvue Farms AD Project**
  - **Location:** Fairvue Farms, Woodstock CT
  - **Nameplate Generation:** 850kw
    - Sufficient energy to power the Fairvue Farm operation plus sufficient additional capacity to meet the demand of **600 CT homes.**
  - **Feedstock:**
    - **60,000 tons/year** of manure/AG waste
    - **10,000 tons/year** of food waste
  - **Making this facility a reality:**
    - **Long term power purchase agreements** similar to the deals offered to wind and solar under the CT ZREC/LREC programs.





- **Lack of Competitive opportunities for Farm projects other than Wind/Solar/Hydro.**
  - Z-REC/L-REC programs only allow the highest of priced technologies to compete for long-term off-take contracts.
- **Past AG related incentives have been hindered by back room deals and by narrow minded interpretations of legislation.**
  - CT Farm AD Pilot Program (2011 Energy Bill)
    - Amended Legislation to allow Bridgeport Project to qualify
    - **RFP** - Limited to on-site demand (Eliminating the Fairvue project)
- **Lack of motivation to create AG solutions**
  - AG issues not a priority to other CT Departments



### ■ Options in Powering Connecticut’s AG Future

#### ■ Instituting an AG-REC

- Similar to the Z-REC and L-REC programs
- Allowing multiple Class I Renewable technologies located on farms to compete for long term off-take contracts with utilities.

#### ■ Institute an AG Feed-in-Tariff (FIT)

- Similar to the Vermont or Ontario FIT programs

#### ■ Institute an AG Virtual Net Metering Rule

- Similar to the Massachusetts legislation offering farms the generation and transmission values from their contracted supply buyers.
- Include **Conjunctive billing** language in the bill to allow farms to offset their total demand over multiple meters.

#### ■ Institute an AG Specific Carve-Out

- Similar to solar carve-out legislation, mandate the utilities to purchase a % of their total power supply from on-farm energy sources.



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## *Next Steps*

- **Discussion Points**
  - **Organics Diversion and the CT Farmer**
  - **Farm Energy – The “Product”**



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## ***GPS – Contact Information***

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## Nourishing Neighborhoods Across America™

**Wholesome Wave™**, a national 501(c)(3) nonprofit organization, has worked since 2007 to empower historically excluded urban and rural communities to make healthier food choices by increasing access to and affordability of fresh, locally-grown food. Our innovative programs address issues of food insecurity, farm viability, economic vitality of local communities, and diet-related diseases. Our reach spans the nation with partners in nearly 30 states, operating farmers markets and other farm-to-retail venues at more than 300 sites and working with almost 2,500 farmers.

The **Double Value Coupon Program (DVCP)** provides consumers with incentives that match the value of their federal nutrition benefits when they are used to purchase fresh, local produce at participating farm-to-retail venues. Implementing DVCP at farm-to-retail venues helps keep federal dollars local and supports the viability of small and midsize farms. Driving additional revenue to these venues helps sustain them in communities that may not otherwise be able to support them.

### Program Highlights:

- In 2011, nearly 40,000 DVCP consumers purchased fresh, healthful produce from local farmers at partnering farm-to-retail venues. That is twice as many served as in 2010.
- Nearly 90% of DVCP consumers reported an increased consumption of fresh produce and more than 90% of DVCP consumers stated that fresh fruits and vegetables made a difference in their family's diets.
- On average 1/4 of total market sales at participating farmers markets were from DVCP consumers.
- In response to increased sales, farmers reported making changes to their operations by expanding acreage/production, diversifying products and adding additional hoop houses or greenhouses.

The **Healthy Food Commerce Initiative's (HFCI)** aim is to strengthen regional agriculture by catalyzing the development of regional food infrastructure. The HFCI team works to direct capital and business development assistance to mission-driven food distribution and processing enterprises, also referred to as "healthy food hubs." In doing so, HFCI helps the channels for "local food" expand so regional farms can more reliably, safely and efficiently source product to institutional buyers like hospitals, schools and large dining outlets. When managed effectively, these food hub enterprises have the potential to be viable businesses that efficiently connect rural production with urban demand. The outcome of such commerce drives regional economic activity, raises farm incomes and preserves farmland acreage.

### Program Highlights

- Wholesome Wave has partnered with Coastal Enterprises Inc., a renowned Community Development Finance Institution, based in Maine, to invest \$3 million from the U.S. Treasury's Healthy Food Financing Initiative, a fund aimed at expanding the availability of nutritious food.
- In 2012 Wholesome Wave brought together an array of mission driven food distributors in the New England region to share best practices and begin to establish a professional network.

The **Fruit and Vegetable Prescription Program™ (FVRx™)** fosters innovative partnerships between healthcare providers and farmers markets to measure the impacts of increased consumption of fresh fruits and vegetables among underserved community members. Over the course of the 4-6 month program, assistance is provided to overweight and obese children and pregnant women.

1. Overweight and obese children and pregnant women are enrolled by their primary care provider as FVRx participants.

2. A primary care provider and a nutritionist meet with participants and their families each month to reinforce the importance of healthy eating.

3. The provider distributes FVRx prescriptions during the visit and assesses fruit and vegetable consumption, weight and BMI.

4. Prescription represents 1 serving of produce per day for each patient and each family member, equal to \$1/day; e.g. a family of 4 would receive \$28 per week.

5. The prescriptions can be redeemed weekly for fresh fruits and vegetables at participating farmers market(s) throughout the 4-6 month program.

6. Participants return to their health center monthly to refill their FVRx prescription, set new self-management goals for health eating and have their health metrics recorded.

### Program Highlights:

- In 2011, Wholesome Wave conducted a six-site FVRx pilot that provided fruit and vegetable prescriptions to vulnerable families, reaching 1,222 individuals (581 adults and 541 children).
- FVRx participants saw improved health outcomes: 38.1% decreased BMI over a four month intervention period.
- FVRx participants reported an increase in fruit and vegetable consumption
- Participating farmers markets saw an average increase in revenue of \$8,129 and an influx of new and repeat customers.





# Nourishing Neighborhoods Across America™



## Thoughts on Wholesome Wave

“The future of the nations will depend on the way they feed themselves. And here you [Wholesome Wave] are leading the way.”

**-Jose Andres, owner of ThinkFoodGroup and James Beard Award-winning chef**

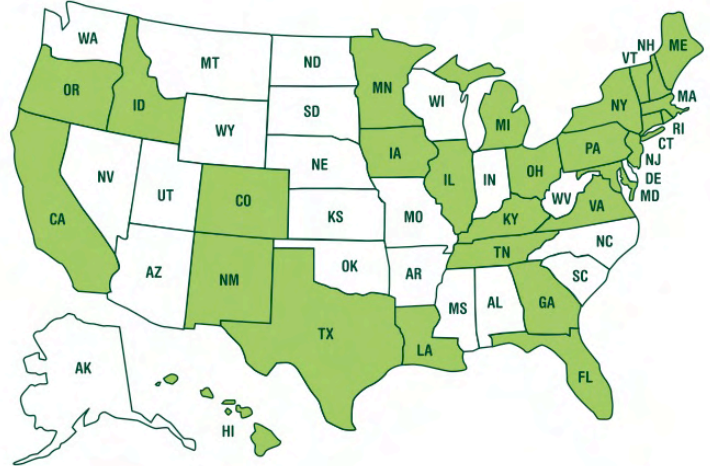
“We value this program [Fruit and Vegetable Prescription Program™] a great deal and feel it is a true asset to our families & community. The opportunity to offer real concrete support of fruit and vegetable intake provided a true incentive for families to make lifestyle changes.

Partnering with Wholesome Wave gave the Holyoke Health Center an opportunity to be part of a national movement & gave us some sense of accomplishment of a larger national agenda.”

**-Vinny Biggs, MD, Holyoke Health Center, Massachusetts**

## 2012 Projections of Wholesome Wave Programming by State

28 states and D.C., 60+ partners & more than 300 participating sites



**DVCP** reaches 26 states and D.C.

**FVRx** expands to 7 states and 12 participating sites

**HFCI** launches inaugural investment in Kentucky

“We began receiving food stamps in the winter, but it was never enough to cover monthly food expenses for our family of six. Then as spring came I remembered that the woman at the Health department told me that the Abingdon Farmer’s market doubles what you spend! This double dollars program has allowed me to continue to feel proud as a mother who can provide her children with plenty of healthy options.” **-Double Value Coupon Program Consumer, Abingdon Farmers Market, Virginia**

## Michel Nischan, Founder and CEO of Wholesome Wave

As the son of displaced farmers, Michel Nischan, CEO, Founder and President of Wholesome Wave, grew up with a great appreciation for local agriculture and those who work the land. He translated these childhood values into a career as a James Beard Award-winning chef, author and restaurateur, becoming a catalyst for change in the sustainable food movement. An Ashoka Fellow, Michel serves on the Board of Trustees for the James Beard Foundation, The Rodale Institute and The Center for Health and the Global Environment (Harvard Medical School).



**“We all have the opportunity to be the heroes of a changed food system.” -Michel Nischan**



## **Wholesome Wave in Connecticut 2011-2012**

### **Connecticut Activity Overview**

Wholesome Wave's work in Connecticut began in 2008 and has grown steadily over the past four years. In 2011, the Double Value Coupon Program (DVCP) reached 3,992 consumers throughout Connecticut. Farm-to-retail venues run by Wholesome Wave's Connecticut partners saw approximately \$80,217 in federal benefit sales and approximately \$42,724 in Double Value Coupon Program sales throughout 2011. In 2012, Wholesome Wave will partner with eight organizations in Connecticut who implement the Double Value Coupon Program at a total of seventeen markets, one mobile market and three farm stands.

Wholesome Wave is also making strides to implement both the Fruit and Vegetable Prescription Program (FVRx) and the Healthy Food Commerce Initiative (HFCI) with partners throughout the state of Connecticut. This year marks the first year of the Fruit and Vegetable Prescription Program in partnership with CitySeed of New Haven and the Fair Haven Community Center. Additionally, Wholesome Wave's HFCI team is cultivating new relationships and engaging Urban Oaks, Fresh New London and CitySeed as the program moves beyond its pilot year.

### *Double Value Coupon Program (DVCP)*

Wholesome Wave's Double Value Coupon Program was launched in 2008 at farmers markets in Connecticut, California, and Massachusetts, and has expanded to nearly 300 markets in twenty-five states and the District of Columbia in 2012. DVCP increases the value of federal nutrition benefits, including the USDA FMNP checks, (issued to seniors and participants of the Special Supplemental Nutrition Program for Women, Infants and Children) and SNAP benefits at participating farm-to-retail venues.

Wholesome Wave's DVCP partners reach some of the most underserved communities in the state. Our current partners include Billings Forge Community Works (Hartford), Hartford Food System (Hartford), CitySeed (New Haven), Bridgeport's Downtown Special Services District (Bridgeport), Brass City Harvest (Waterbury), the North End Action Team (Middletown), the Town of Putnam (Putnam), and Urban Oaks Organic Farm (New Britain), in addition to Wholesome Wave's two Bridgeport Farm Stands. In total, these programs represent an estimated nineteen farmers markets and thirty-six individual food producers.

### Bridgeport

*Downtown Special Services District (DSSD):* DSSD has implemented the DVCP at the Downtown Bridgeport Farmers Market since 2009. In 2011, the market saw approximately \$9,274 in federal benefit sales and \$6,687 in Double Value Coupon Program sales, reaching 620 individual DVCP consumers.



*Wholesome Wave:* Wholesome Wave began running the DVCP at two (2) farm stands in Bridgeport in 2008. The East Side Farm Stand is operated in partnership with the Bridgeport Department of Social Services. The other is run on the St. Vincent Medical Center campus with their support. In 2011, the two farm stands saw approximately \$31,330 in federal benefit sales and \$20,268 in Double Value Coupon Program sales, reaching 1,911 individual DVCP consumers.

#### Hartford

*Billings Forge Community Works:* Billings Forge Community Works began implementing the DVCP at its two markets, one summer and one winter, in 2009. The markets see an average of nine to thirteen vendors per market day. In 2011, the Billings Forge markets brought in approximately \$5,166 in federal benefit sales and \$5,265 in Double Value Coupon Program sales, reaching seventy-six (76) individual DVCP consumers.

*Hartford Food System:* The Hartford Food System is a new Wholesome Wave partner beginning in 2012. This season they will run the DVCP at the North End Farmers Market in Hartford with an estimated four vendors.

#### New Haven

*CitySeed:* CitySeed is a new Wholesome Wave partner as of 2012. This season they will run the DVCP at five farmers markets and one mobile market in New Haven.

#### Middletown

*North End Action Team (NEAT):* The North End Action Team began implementing the DVCP at their farmers market in Middletown in 2011. The market sees an average of ten to fifteen vendors per market day. In 2011 the market brought in approximately \$18,371 in federal benefit sales and \$16,459 in Double Value Coupon Program sales, reaching 664 individual DVCP consumers.

#### New Britain

*Urban Oaks Organic Farm:* The Urban Oaks Organic Farm began implementing the DVCP in 2010 at their year-round farm stand in New Britain. In 2011, the farm stand saw approximately \$12,538 in federal benefit sales and \$8,448 in Double Value Coupon Program sales, reaching 652 individual DVCP consumers.

#### Putnam:

*Town of Putnam:* The Town of Putnam began implementing the DVCP in 2011 at three farmers markets in Putnam. The markets see an average of thirteen vendors per market day. In 2011, the market brought in approximately \$3,534 in federal benefit sales and \$3,837 in Double Value Coupon Program sales, reaching 145 individual DVCP consumers.



## Waterbury

*Brass City Harvest:* Brass City Harvest is a new Wholesome Wave partner as of 2012. This season they will run the DVCP at four farmers markets in Waterbury with an estimated eighteen vendors.

### *Fruit and Vegetable Prescription Program™ (FVRx™)*

The Fruit and Vegetable Prescription Program fosters partnerships between healthcare providers and organizations working with farmers markets to measure the health effects of increased consumption of fresh produce. FVRx is designed to provide assistance to overweight or obese pregnant women, children and their families. In addition to our goal of improving and tracking health outcomes, FVRx provides direct economic benefits to small and midsize farms and brings additional resources into the local economies of underserved communities. Fruit and vegetable prescriptions are distributed by community healthcare providers and redeemed at participating farmers markets for fresh fruits and vegetables. Each dollar invested in the FVRx program pays forward threefold by nourishing the consumer, boosting the farmer's revenues and uplifting the community as a whole.

2012 marks the first year Wholesome Wave will implement FVRx in Connecticut. The program will be implemented in partnership CitySeed of New Haven and the Fair Haven Community Health Clinic. The Wholesome Wave grant distributed between the health clinic and the Wooster Square and Fair Haven farmers markets will provide direct assistance to forty participants this year. The Fair Haven Community Health Clinic and CitySeed will use this funding to link over 180 individuals to healthy, locally grown fruits and vegetables at the two participating markets.

### *Healthy Food Commerce Initiative (HFCI)*

In 2011, Wholesome Wave launched the Healthy Food Commerce Initiative, a new program with a mission to strengthen regional agriculture by catalyzing the development of regional food infrastructure. The HFCI team works to direct capital and business development assistance to mission-driven food distribution and processing enterprises, also referred to as "healthy food hubs."

In 2012, Wholesome Wave began engaging several emerging food hubs in Connecticut, including Urban Oaks Organic Farm in New Britain, CitySeed in New Haven and F.R.E.S.H. New London. Additionally, Wholesome Wave initiated conversations with key stakeholders in Hartford and New Haven about the potential for HFCI in these regions.



# Double Value Coupon Program: 2011 Outcomes

Nourishing Neighborhoods Across America™

Our work could not happen without the generosity of those who financially supported Wholesome Wave™ and our Double Value Coupon Program.

Wholesome Wave Thanks:

The Betsy and Jesse Fink Foundation (Founding Funders)  
Newman's Own Foundation (Founding Funders)  
The 1772 Foundation  
Ashoka  
Aetna Foundation  
American Communities Trust  
Anonymous Donor  
Broad Reach Fund  
Blue Cross Blue Shield of MA  
The CT Department of Agriculture  
Food & Wine  
Elmina Sewall Foundation  
Jane B. Cooke Charitable Trust  
JTG Foundation  
Kashi  
Kaiser Permanente  
Kendall Foundation  
The Kresge Foundation  
March of Dimes  
Organic Valley  
Sur La Table  
NoVo Foundation  
United Way of Coastal Fairfield County  
Wallace Genetic Foundation  
Yum-O



## Double Value Coupon Program

Wholesome Wave works to empower historically excluded urban and rural communities to make better food choices by increasing access to, and affordability of, fresh, locally-grown food. Our innovative programs address issues of food insecurity, farm viability, economic vitality of local communities, and diet-related diseases.

Wholesome Wave's Double Value Coupon Program (DVCP) was fully launched in 2008 at farmers markets in Connecticut, California, New York and Massachusetts. In 2011, participating farm-to-retail venues, including farmers markets, mobile markets, community supported agriculture, and farm stands, saw almost \$2 million in federal nutrition benefits and incentive purchases. In 2012, Wholesome Wave's DVCP now extends to 60 partners in 25 states and the District of Columbia, over 300 venues and an estimated 2,500 farmers.

When shopping at participating farm-to-retail venues, DVCP participants receive an incentive that matches the amount spent in federal nutrition benefits toward the purchase of locally grown, healthy food. Implementing an incentive program, such as DVCP, at farm-to-retail venues has the potential to increase the consumption of healthy produce by participating community members and support the viability of small and midsize farms by creating new revenue streams.



*Photo courtesy of Appalachian Sustainable Development*

## Linking Farmers, Consumers and Communities, 2011

- **2,300** participating farmers.
- **225** participating farm-to-retail venues in **21** states and D.C.
- **39,000** participants made **93,000** visits to farm-to-retail venues in 2011 in which federal nutrition benefits were spent, doubling the amount of participants served in 2010 (Fig. 1).
- **\$1.9 million** in revenue generated by DVCP and federal nutrition benefits for farm-to-retail venues and communities (Fig. 2).

Figure 1: Consumers Redeeming Federal Nutrition Benefits at Participating Farm-to-Retail Venues, 2010-2011

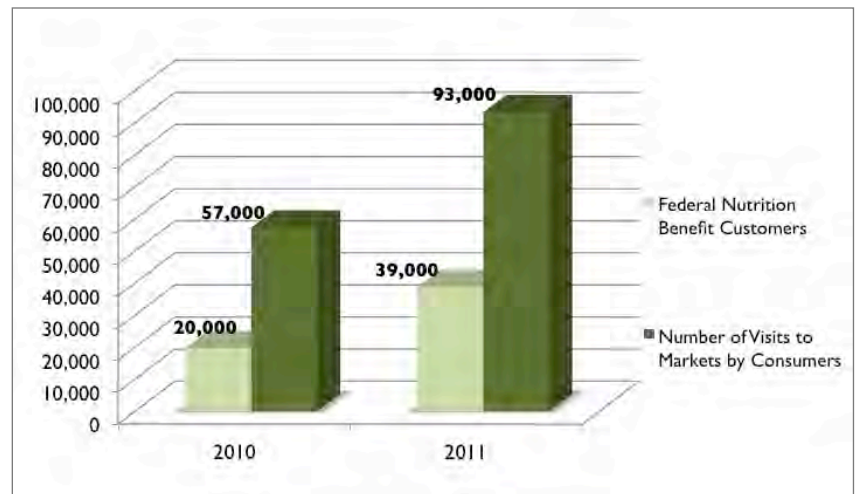
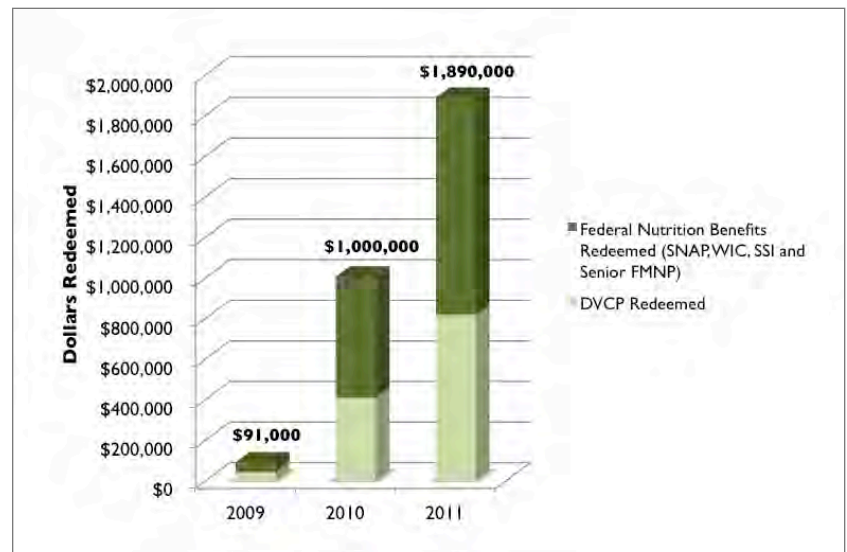


Figure 2: Double Value Coupon Program and Federal Nutrition Benefits Redeemed at Participating Farm-to-Retail Venues, 2009-2011

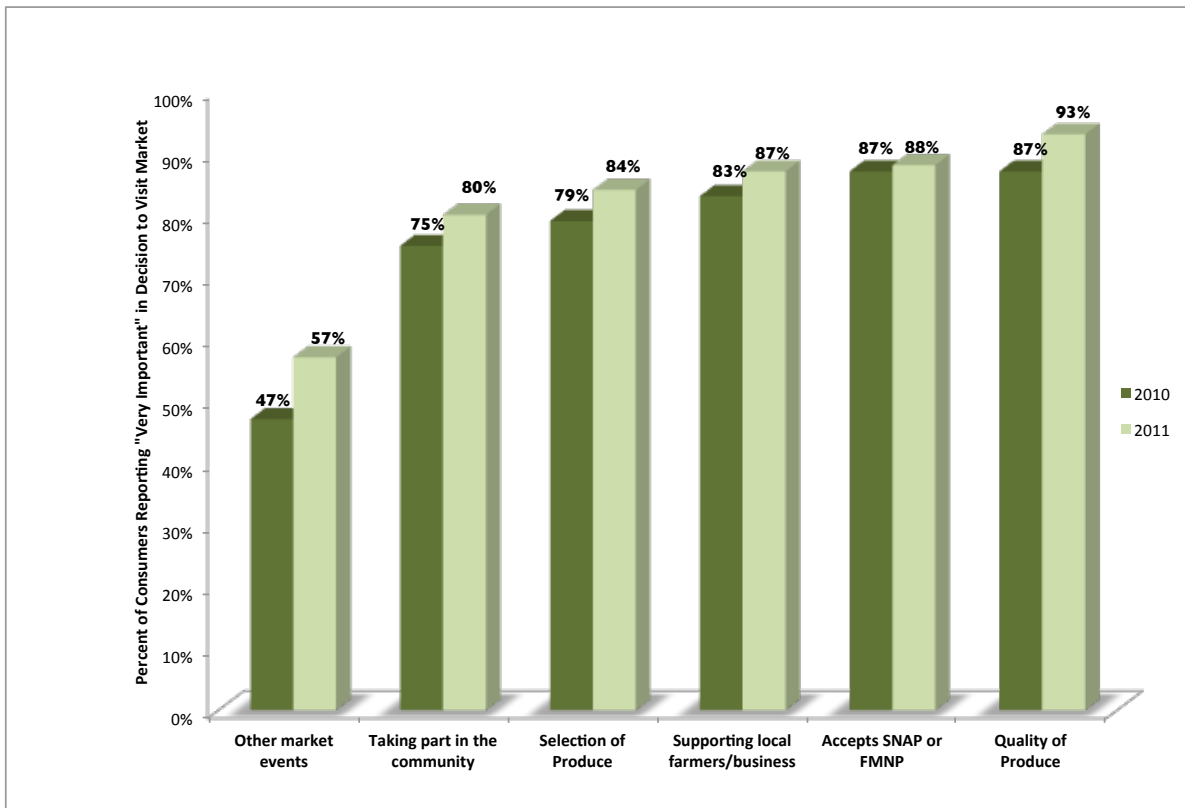




## Participating Consumers: What They Say

- As a result of shopping in the markets, **86%** of DVCP consumers increased or greatly increased their consumption of fresh fruits and vegetables.
- Over **90%** of DVCP consumers agreed or strongly agreed that the amount of fresh fruits and vegetables they bought at the market made a big difference in their or their family's diet.
- **77%** of DVCP consumers get **half or more** of their fresh fruit and vegetables at the participating markets during market season.
- DVCP consumers **highly value many aspects** of participating farm-to-retail venues, including supporting local farmers and business, quality of produce at the market and taking part in their community (Fig. 3).

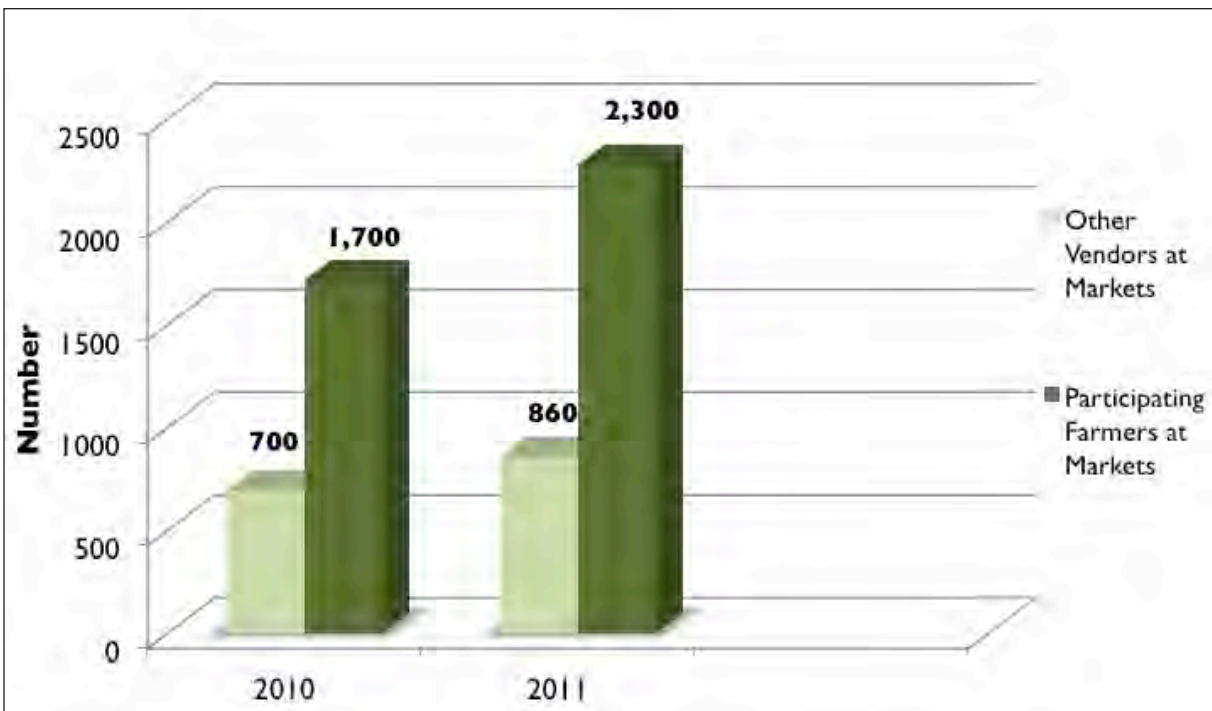
Figure 3: Consumers Value Aspects of Participating Farm-to-Retail Venues as "Very Important," 2010-2011



## A Look at Our Participating Farmers

- **2,300** farmers benefited from Wholesome Wave programming in 2011 (Fig. 4).
- **63%** of farmers responding to our survey were **women**.
- **46%** are under the **age of 45** (the national average age of farmers is 57).
- They run **working farms** - **63%** have gross farm sales between \$2,000 and \$100,000 a year; **24%** gross over \$100,000 a year.
- They are **direct marketers** - On average, **58%** of their income is from farmers markets and **30%** from other direct-to-consumer or direct-to-retail outlets.

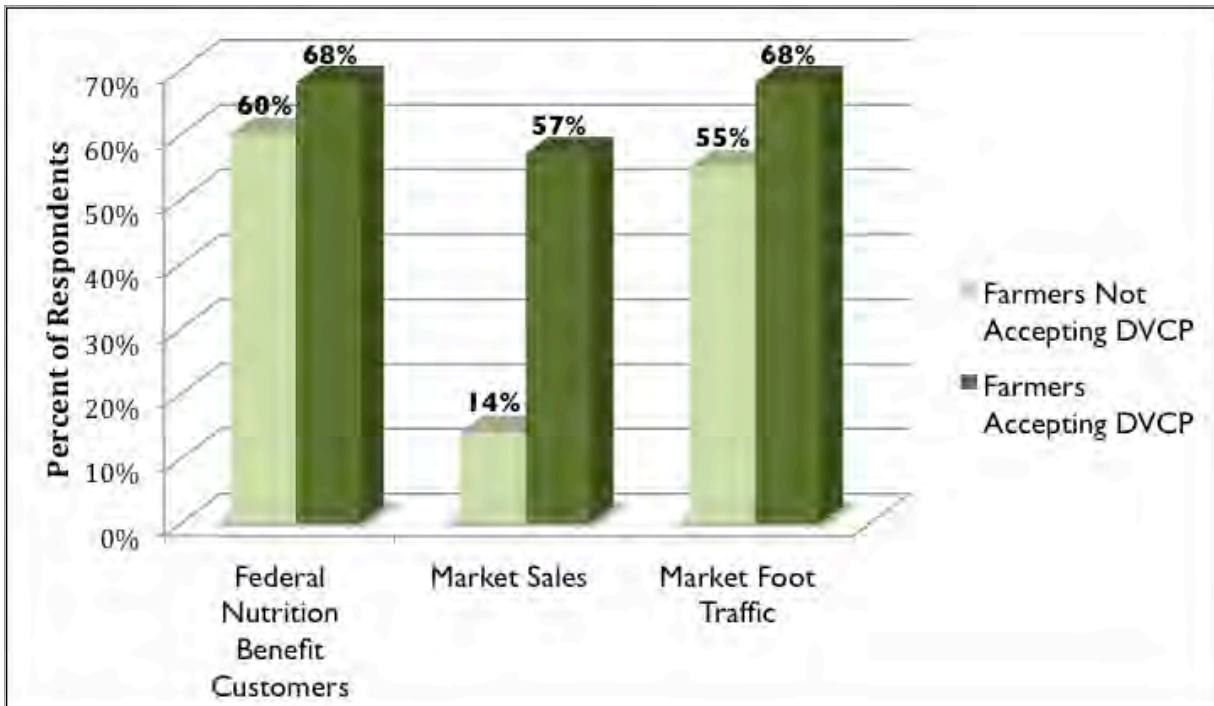
Figure 4: Number of Vendors at Participating Farm-to-Retail Venues, 2010-2011



## Participating Farmers: Reported Benefits of DVCP

- **50%** of farmers surveyed in 2010 reported that DVCP was important or very important to their sales at the markets.
- Approximately **55%** reported that the fact that their farm-to-retail venues' redeemed federal nutrition benefits and DVCP is important or very important in their decision to continue as a vendor at the market (Fig. 5).
- In 2010, farmers reported making changes to their operations as a result of the introduction of DVCP at their markets: **15%** reported increasing acreage/production, **12%** diversified products and almost **10%** added hoop houses or greenhouses.

Figure 5: Wholesome Wave's DVCP Program is Important to Farmer and Vendor Sales and Foot Traffic, 2010

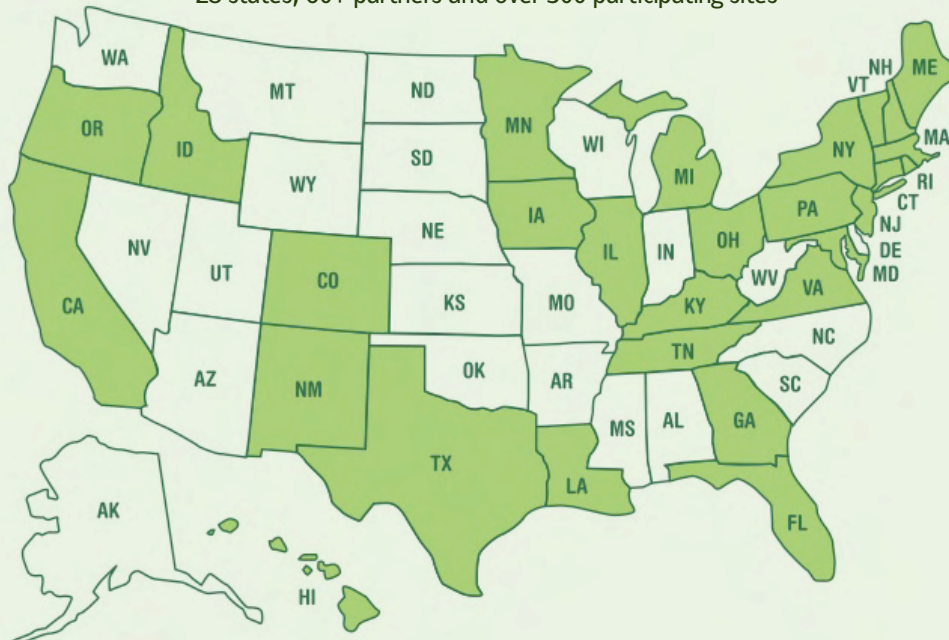


## DVCP Impact on Local Economies and Farm-to-Retail Venues

- Market Managers reported that an **average of 23%** of market sales came from federal nutrition benefits and DVCP.
- **80%** of market managers reported that incentives were **important or very important** to overall market sales and **75%** felt that they were important for **vendor retention**.
- SNAP redemption generally **doubles** at markets **after DVCP implementation**. Some markets experience much larger increases, often continuing into following years\*.
  - \*Research has shown that every \$5 in new SNAP benefits generates as much as \$9 of economic activity (*The Food Assistant National Input-Output Multiplier (FANIOM) Model and Stimulus Effects of SNAP* USDA/ERS, Oct 2010).
- Almost a third of DVCP consumers reported that they planned to spend an average of \$28 at nearby businesses on market day. This results in an estimated **\$760,000** spent by DVCP participants at local businesses in 2011.

### 2012 Projections of Wholesome Wave Programming by State, including DVCP, FVRx, and HFCI

28 states, 60+ partners and over 300 participating sites



**Double Value Coupon Program** reaches 26 states and D.C.

**Fruit and Vegetable Prescription Program** expands to 8 states and 12 participating sites

**Healthy Food Commerce Initiative** launches inaugural investment in Kentucky

## Overview of Program Outcomes

FVRx fosters innovative partnerships between healthcare providers and farmers markets to measure the impacts of increased consumption of fresh fruits and vegetables in underserved communities.



**1.** Overweight and obese children and pregnant women are enrolled by their primary care provider as FVRx participants.

**2.** A primary care provider and a nutritionist meet with participants and their families each month to reinforce the importance of healthy eating.

**3.** The provider distributes FVRx prescriptions during the visit and assesses fruit and vegetable consumption, weight and BMI.

**4.** Prescription represents 1 serving of produce per day for each patient and each family member, equal to \$1/day; e.g. a family of 4 would receive \$28 per week.

**5.** The prescriptions can be redeemed weekly for fresh fruits and vegetables at participating farmers market(s) throughout the 4-6 month program.

**6.** Participants return to their health center monthly to refill their FVRx prescription, set new self-management goals for healthy eating and have their health metrics recorded.

## The Impact of FVRx

In the 2011 pilot year, the FVRx program provided fruit and vegetable access to vulnerable families, reaching 1,122 individuals (581 adults and 541 children).

### On Farmers Markets

- FVRx **generates new market customers**: 51.2% of FVRx families had never or rarely been to a farmers market.
- Increase in **repeat customers**: 50.8% of FVRx families came to the farmers market 8 or more times throughout the program.
- The program resulted in **increased revenue** for markets, with an average of \$8,129 per market for a total of nearly \$50,000.
- **Community relationships** are fostered at the market through education that builds on health messaging provided by the healthcare provider.

### On Healthcare Providers

- 79.9% of participants said it was **very important to receive the prescription from a clinical provider** who stressed the importance of fresh fruits and vegetables, reinforcing the role of the community healthcare provider in prevention.
- Healthcare provider recommendations to increase fruit and vegetable consumption are now backed by a system to **provide access for families in need**.
- **FVRx increases patient retention**. 70.9% of FVRx patients who attended one health care visit returned for at least two more clinic visits, a larger proportion than is typically seen in clinical obesity programs in underserved populations.

### On Families and Communities

- Participating families developed into **communities of healthy eaters** who network at their health center and farmers market.
- 38.1% of participants **decreased BMI** over the 4 month FVRx season, a promising result compared to other community obesity interventions that serve vulnerable families.<sup>1</sup>
- 95.0% of participants were told at least every visit about the importance of fruits and vegetables through **valuable health messaging** directly from healthcare providers, as compared to published rates of health behavior change counseling of 65% and below.<sup>2</sup>
- 54.0% of FVRx families stated they **increased their knowledge of the importance of fruits and vegetables** a lot as a result of the program.
- 66.2% of FVRx patients stated they **increased their fruit and vegetable consumption** a lot as a result of the program.

<sup>1</sup> Further studies are being planned to determine the additive effect of FVRx in the context of other community obesity programs, especially those that focus on increasing physical activity.

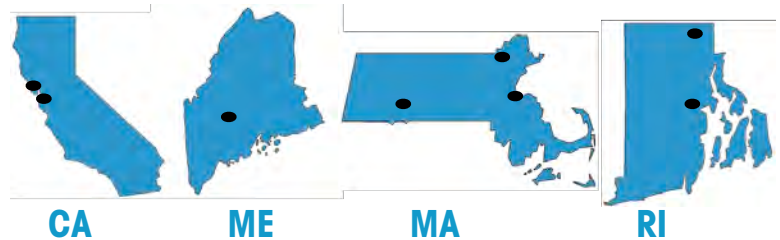
<sup>2</sup> Thande NK, Hurstak EE, Sciacca RE, Giardina E-GV. Management of obesity: a challenge for medical training and practice. *Obesity*. 2008; 17: 107-113.

## A Unique Approach to Prevention

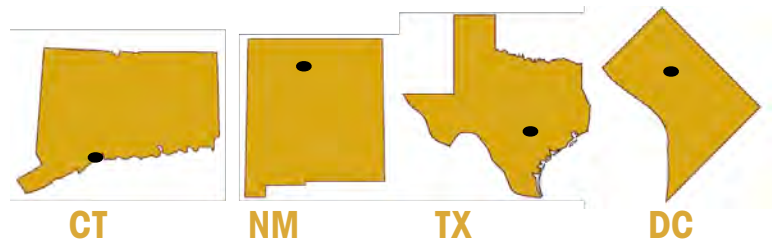
- FVRx is a **community based intervention** that stimulates productive partnerships among doctors, nutritionists, community healthcare workers and farmers.
- The program **encourages healthy eating** among underserved families and their community.
- FVRx uses **messaging** directed from the healthcare team to participating families in order to **stress the link between fruit and vegetable consumption and health**.
- The healthcare team is made up of a nutritionist, healthcare provider, and community healthcare worker.
- Targeting pregnant women and children, FVRx uses a **Lifecourse approach** to healthy eating. **By beginning exposure to fruits and vegetables in utero, and continuing that exposure throughout childhood, the program aims to develop a new generation of healthy eaters in underserved communities.**
- The program establishes **lasting and innovative partnerships** between health care providers and farmers markets.
- An integrated FVRx **learning community** brings together farmers markets and healthcare providers to enhance the effectiveness of both roles.

## FVRx Partners by State, 2011 and 2012

### 2011 & 2012 FVRx Partners



### 2012 New FVRx Partners



## Reactions from Participants

"Partnering with Wholesome Wave gave the HHC an opportunity to be part of a national movement and gave us some sense of accomplishment of a larger national agenda."  
-**Vinny Biggs MD**, Holyoke Health Center, MA

"In general, the FVRx program (along with a healthy partnership with Thundermist Health Center) helped transform the Woonsocket market into one that was vibrant and economically viable for participating farmers."  
-**Kayla Ringelheim**, Farm Fresh Rhode Island, RI

"The participating families were able to receive fresh fruits and vegetables they otherwise would not be able to afford without the FVRx script. The families' knowledge of nutritious foods increased as they came in for each monthly follow up and they learned how to use and cook new kinds of vegetables they would have never thought to buy or use. This program also aided in supporting and raising awareness to support local farmers and the local economy."  
-**Melissa Martland-Kile and Ckara Silva**, Thundermist Health Center, RI



Nourishing Neighborhoods Across America™

## Healthy Food Commerce Initiative

### Beyond the Farmers Market

Investing in infrastructure to make local sourcing easy for all



The **Healthy Food Commerce Initiative's (HFCI)** aim is to strengthen regional agriculture by catalyzing the development of regional food infrastructure. The HFCI team works to direct capital and business development assistance to mission-driven food distribution and processing enterprises, also referred to as "healthy food hubs." In doing so, HFCI helps the channels for "local food" expand so regional farms can more reliably, safely and efficiently source product to institutional buyers like hospitals, schools and large dining outlets. When managed effectively, these food hub enterprises have the potential to be viable businesses that efficiently connect rural production with urban demand. The outcome of such commerce drives regional economic activity, raises farm incomes and preserves farmland acreage.

### Program Highlights

- Wholesome Wave has partnered with Coastal Enterprises Inc., a renowned Community Development Finance Institution, based in Maine, to invest \$3 million from the U.S. Treasury's Healthy Food Financing Initiative, a fund aimed at expanding the availability of nutritious food.
- In 2012 Wholesome Wave brought together an array of mission driven food distributors in the New England region to share best practices and begin to establish a professional network.

### There is exciting growth in an emerging class of farm distributors

- Regional distributors are experiencing more "local food" demand than they can handle.
- Many of these "food hubs" are viable business enterprises that aggregate, distribute and process fresh farm products.
- Few of these enterprises are properly capitalized to grow.
- Nearly all are mission driven by helping farmers succeed or expanding access to fresh produce in underserved communities.



For more information about Wholesome Wave please visit [www.wholesomewave.org](http://www.wholesomewave.org), email [info@wholesomewave.org](mailto:info@wholesomewave.org) or call 203-226-1112



# Nourishing Neighborhoods Across America™

Wholesome Wave helps enterprises become “investment ready” and then connects them with mission oriented investors.



Wholesome Wave’s Healthy Food Commerce team brings a unique mix of business acumen, entrepreneurial experience and policy access to help “food hubs” prepare for growth and investment.



**Wholesome Wave™**, a national 501(c)(3) nonprofit organization, has worked since 2007 to empower historically excluded urban and rural communities to make healthier food choices by increasing access to and affordability of fresh, locally-grown food. Wholesome Wave partners with a variety of stakeholders to implement programs that benefit underserved communities as well as producers in rural and urban markets. Our current programs include the Double Value Coupon Program, the Fruit and Vegetable Prescription Program™ and the Healthy Food Commerce Initiative. Wholesome Wave’s reach spans the nation with partners in nearly 30 states, operating farmers markets and other farm-to-retail venues at more than 300 sites and working with almost 2,500 farmers.

For more information about Wholesome Wave’s Healthy Food Commerce Initiative, please contact Malini Ram Moraghan, Managing Director, Healthy Food Commerce Initiative at [malini@wholesomewave.org](mailto:malini@wholesomewave.org). Please visit [www.wholesomewave.org](http://www.wholesomewave.org) to learn more about Wholesome Wave or call 203-226-1112.





**Nourishing Neighborhoods Across America™**

## Wholesome Wave Policy Developments

Wholesome Wave understands the challenges and trends associated with developing a comprehensive and synchronistic agriculture, food, and nutrition system within the United States. Our leadership has been able to identify key policy options and their potential risks and implications, and outline strategic policy directions that position Wholesome Wave to impact agriculture, food, and nutrition policy more effectively. We have experienced many accomplishments and milestones across all levels of government.

### **The 2012 Farm Bill**

Front and center in our policy work is the Farm Bill. The Senate recently passed a farm bill and the House will take up its version later this summer. The Senate bill reforms farm policy, consolidates and streamlines programs, and would reduce the deficit by \$23.6 billion. Many programs are affected by the cost savings measure including Food Stamps, however, the Senate bill preserves 99.5% of the SNAP budget, while the House of Representatives is poised to propose cutting this vital benefit for Americans living in poverty by at least 25%.

Of particular interest to Wholesome Wave partners are programs that add benefits that increase the affordability of fresh, locally grown fruits and vegetables for SNAP consumers struggling to put fresh food on the family table.

#### **These provisions, which we call the Wholesome Wave “Pick 6” include:**

• **Hunger-Free Community Incentive Grants** – Nutrition incentive programs to increase fruit and vegetable purchases by SNAP customers at farmers markets - \$20 million a year.

• **Farmers Market and Local Food Promotion Program** – Local food added to the existing very popular farmers market promotion program. Funding doubled to \$20 million a year.

• **Senior Farmers Market Nutrition Program** – Mandatory funding maintained at \$20 million annually for seniors living in poverty.

• **Specialty Crop Block Grants** – Increased funding to \$70 million annually for five years with provisions to allow multistate programs promoting fruit and vegetable production through local and regional sales.

• **Community Food Projects** – Funding doubled to meet the needs of low-income people, increasing self-reliance for communities to provide for their own food needs through infrastructure improvement and development to meet specific state, local and neighborhood food and agriculture needs.

• **Innovations in SNAP** – An amendment to permit SNAP redemption by community supported agriculture (CSA)



## Nourishing Neighborhoods Across America™

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### **Federal and State Accomplishments**

Wholesome Wave assists partners in applying to a variety of United States Department of Agriculture (USDA) grants by providing grant proposal language and one-on-one grant preparation assistance as necessary.

For the federally funded, state administered Specialty Crop Block Grant (SCBG) program, Wholesome Wave encouraged the USDA to consider the eligibility of infrastructure and staffing that support nutrition incentives at farmers markets and community supported agriculture organizations, provided they promote the competitiveness of participating specialty crop producers.

States have the latitude to establish their own funding priorities. Wholesome Wave worked closely with several states that set goals around access and affordability. Last year, a dozen of our partners in 10 states successfully applied for SCBG, resulting in grants totaling approximately \$700,000.

Funds from the Farmers Market Promotion Program (FMPP) have paid for EBT terminals and related infrastructure. In 2011, 17 organizations affiliated with Wholesome Wave secured \$1.24 million in FMPP grants. Wholesome Wave provided direct technical assistance to five of the recipients, who received a total of \$340,000 in grants.

Wholesome Wave worked with the Food and Nutrition Service of the USDA in 2009 and 2010 on its regulations for the Supplemental Nutrition Assistance Program. The resulting change allows SNAP clients to benefit from nutrition incentives at farmers markets. This change has been the lynchpin for the proliferation of incentive programs around the country.

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### **Municipal Accomplishments**

Wholesome Wave works with a growing number of city food policy advisors in the country to raise awareness and excitement for incentive programs at farmers markets. In the fall of 2010 and 2011, we sponsored two convenings for mayoral food policy advisors. This past November, city food policy advisors and colleagues interested in food system change gathered in New York City where advisors from Baltimore, Boston, Los Angeles, Louisville, New York and Portland, OR, spent two days sharing innovations and discussing policy goals for the Farm Bill. The networking fostered by Wholesome Wave resulted in exciting developments that have given voice to a powerful constituency in the food movement.

Ten big-city mayors, spearheaded by the office of New York Mayor Michael Bloomberg, weighed in on the Farm Bill debate in Congress by sending a letter to the Chairs and Ranking Members of the Agriculture Committees in the House and Senate. They stressed the "opportunity to promote food security and the health of our residents, while also fueling economic growth and protecting our environment."

Wholesome Wave worked with our D.C. based partners and the D.C. City Council to get nutrition incentive program funding in their 2013 budget. In June 2012, the City Council In June 2012, the D.C. City Council passed its Fiscal Year 2013 budget, which included \$50,000 allocation to support expanding nutrition incentive programs at farmers markets in the District.

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