



EAGLE STREET ROOFTOP FARM

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Eagle Street Rooftop Farms is a 6,000 square foot green roof organic vegetable farm located on a warehouse rooftop in Greenpoint, Brooklyn. On the shoreline of the East River and with a sweeping view of the Manhattan skyline, the farm realizes the benefits of a green roof while bringing hyper-local produce to the Greenpoint community. As a model for the urban farming movement and the utilization of green roofs in a unique manner, Eagle Street Rooftop Farms operates a small community supported agriculture (CSA) program, and an onsite farm market, and caters to area restaurants. Additionally, in partnership with Growing Chefs (www.GrowingChefs.org) the rooftop farm hosts a range of educational and volunteer programs designed to bring city-dwellers closer to their food source.

OPERATION AND OWNERSHIP

- Eagle Street Rooftop Farm is a product of brainstorming between Brooklyn-based company Broadway Stages and the green roof design and installation firm Goode Green. The farm was initially named "Rooftop Farms" in 2009 by its founding farmers, Annie Novak and Ben Flanner.
- The farm is installed on a building is owned by Gina and Tony Argento of Broadway Stages, a Greenpoint-based sound stage company with a longstanding history of community investment. Broadway Stages financed the green roof installation.
- Goode Green designed the green roof and installed the base system and growing medium.
- Annie Novak is the operating farmer for 2010. Annie Novak and Ben Flanner were the farm's growers for the inaugural 2009 season and planted the first seeds on April 27, 2009.
- To run the farm, Annie works with a team of trained interns, urban farming apprentices as well as staff from Growing Chefs (www.GrowingChefs.org). Each week during the growing season, the farm hosts volunteers, who assist with seasonal tasks, harvest and composting.

DESIGN AND INSTALLATION

- The green roof base system is comprised of 2” of built-up components: polyethelene, drainage mat, and retention and separation fabrics.
- With the approval of the building's engineer, 200,000 pounds of growing medium were lifted onto the roof by crane, in "super-sacks", over the course of a single day. The growing medium, laid directly onto the green roof base, is a mixture of compost, rock particulates and shale and is manufactured in Pennsylvania. It is a green roof component that at the same time retains water, allows for air circulation and is lightweight.
- The green roof can hold over 1.5” of rain, providing a significant reduction in storm water runoff. The captured water, in turn, can help to cool the warehouse below yielding a reduction in cooling costs.
- Installation cost was approximately \$10 per square foot. This is significantly lower than most green roof installations due in part to two main factors: the three story building and open expanse of roof were very accessible and, two, that recycled materials such as used rafters were utilized for edging.

FARMING DESIGN AND SET-UP

- Upon completion of Goode Green's base system installation, the growing medium was moved into by place by a team of farming volunteers over the course of three days. It was arranged into 16 north-south beds measuring thirty inches to four feet in width and divided down the middle by a single long aisle. The beds have a soil depth of 4-7”. The aisles were filled with mulched bark.
- Since overhead watering on a rooftop often evaporates or blows away, irrigation was initially provided via black plastic drip lines, using city tap water. In 2010, the drip irrigation system was de-installed, as the root systems of the crops rotated and intercropped through the farm during the growing season were inconducive with drip watering (e.g. carrots, microgreens, radishes). Currently, the Farm relies on hand watering (via hose) for seedlings and transplants, and rainwater for established plants (kale, chard, tomatoes).

PRODUCE

- In its first season, the Eagle Street Rooftop Farm grew over thirty types of produce, from watermelon to cabbage. Having seen what fared poorly in a greenroof growing environment, in 2010 Annie tightened the crop list to a wider range of varities within a smaller number of crops.

- In 2010, the Farm grows a narrower crop list, with a wide diversity of heirloom and rooftop-acclimated varieties of produce within each crop type. In choosing her crops, Annie designed a special rooftop salad mix of seed stock designed to do well on rooftop conditions, yet provide the same colors and spice of traditional popular salad mixes. Currently, the Farm grows cucumbers, hot peppers, tomatoes, eggplants, spinach, radishes, kale, swiss chard, carrots, peas, beans, salad greens (lettuces, mustards, arugula) herbs (sage, tarragon, oregano, parsley, chives, cilantro, dill), and flowers (cosmos, zinnias, calendula, tobacco, daisies, hops). Additionally, the Farm grows a small amount of corn and squash (winter and summer).
- Heat, soil depth and soil quality affect the capacity of the Farm to grow healthy greenroof crops. The most botanically successful crops for health and high yield are hot peppers, cherry tomatoes, and sage. The least adaptive are winter/summer squash.
- A majority of the Farm is dedicated to high-production crops for restaurant and market sales. Swiss chard, kale and tomatoes dominate. A special section of the beds is dedicated to growing a wider range of vegetables for the Community Supported Agriculture (CSA) shareholders. Additionally, the Farm features a "square-foot garden" to model how to grow a variety of produce in the small space typically available to city-dwellers.
- The farm sells its harvest through its site-based Sunday farm market. The Community Supported Agriculture (CSA) pickup is on Tuesday nights. The Farm also provides produce for several local restaurants, including Williamsburg's Marlow & Sons, Greenpoint's Paulie Gee's, Brooklyn Brine, and Champion Coffee.
- Rooftop honey is harvested from three beehives kept by Annie Novak in partnership with Megan Paska of Brooklyn Honey (www.BrooklynHoney.com). The Farm keeps two traditional English beehives and a top bar hive. The bees are a domesticated Italian variety, raised in the American south.

COMMUNITY-SUPPORTED AGRICULTURE (CSA)

- In 2010, the farm launched the nation's first rooftop farm-based CSA program.
- CSAs provide a wealth of benefits to farmers and members. Members provide the farmer with seed money by paying upfront for the season's produce. In return, members reap the benefits of a direct relationship with a local farm and enjoy fresh local produce from a known source throughout the growing season.
- Data from the 2010 CSA will be collected and analyzed to increase our understanding of how many people that an urban farm project can feed.

COMMUNITY OUTREACH/EDUCATION

- The Eagle Street Rooftop Farm, working with Growing Chefs' curriculum (www.GrowingChefs.org), hosts a range of workshops for children and adults. Topics include growing food in New York City, seed-saving, the art of cooking locally, city composting, the benefits of greenroofs, beekeeping, and guest lecturers.
- Over the course of the 2009 growing season, over 30 different schools and groups learned about their food's journey from the soil to the kitchen at rooftop workshops presented by Growing Chefs.
- The Farm is open to the public as visitors and volunteers on Sundays during its market hours. All skill levels are welcome.
- Growing Chefs also curates the Farm's weekly 2pm Free Lecture series. Held concurrently with the Farm's open Sundays, the two o'clock hour-long workshops have ranged from urban chicken-keeping to pickle making.
- The Farm hosts a composting program, collecting contributions from restaurants and its weekly volunteer base. Composting is particularly important in Greenpoint where the soil can be toxic, and home composting is often impossible.
- In 2010, the Farm launched its Apprenticeship Program. Seasonal apprentices (spring, summer, fall) dedicate two six hour weekdays and a full Sunday to working at the Farm, following closely the Farm's planting and growing practices. Many of the Farm's apprenticeship graduates continue to farm.

CONTACTS

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