

HOW INDOOR AGRICULTURE IS A BOON TO NEW YORK'S FOODIES

1. NEW YORK IS A FOODIE CITY:

A. There are 427 food delivery services in New York, according to Yelp!, more than 2½ the number in Washington, DC



B. It has six Michelin 3 star restaurants, as many as the rest of the country combined¹



C. New Yorkers spend more per head on dinner out than any other city at \$48.15, 1/5th higher than the national average²



D. New York restaurants are forecast to have \$35.8bn in sales in 2015,³ around the same size as entire national organic agriculture sales⁴



2. DEMAND FOR LOCAL FOOD IS GROWING ACROSS THE COUNTRY, YET NEW YORK IMPORTS MOST OF ITS FOOD

A. The National Restaurant Association cited “locally grown produce” as the top produce trend for 2015⁵



B. National market demand for “local food” has expanded from \$1 billion to \$7 billion in the last 9 years⁶

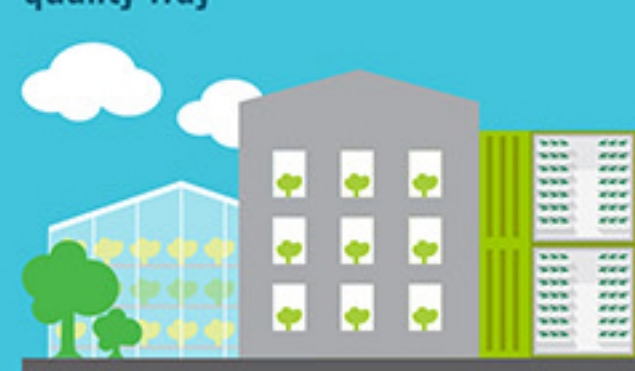


C. Greater than 95% of the lettuce, tomatoes, and spinach we consume comes from out of state. For strawberries, 93% of our consumption comes from out of state⁶



3. INDOOR-GROWN PRODUCE IS STARTING TO HELP WITH THAT CONUNDRUM

A. Indoor production - in greenhouses, controlled environment warehouses and vertical farms - is the only viable method to produce these crops out-of-season in a consistent, high-quality way



B. Between 2007 and 2012, there was a 54% increase in wholesale value of greenhouse-grown produce in New York⁷



C. For example, Gotham Greens is growing veggies in a 20,000ft² greenhouse year-round on the roof above Whole Foods Market in Gowanus, Brooklyn



4. AND IT CAN HELP A LOT MORE

A. Based on best land use about 2/3 of New York State consumption can be satisfied with regional and local production of mostly vegetables, fruits, dairy and eggs⁸



B. A 2012 study identified 1,200 acres of potential rooftop farming space in New York⁹



C. New York grown field or high-tunnel grown produce has the lowest carbon footprint, but if consumers want year-round produce it must be imported (usually from California, Florida or, Arizona) or produced locally using controlled environment agriculture (CEA) technology



D. Using greenhouse technologies makes locally grown produce more sustainable than imported produce¹⁰ (lbs. CO2 per lb. lettuce)

I. Imported to NY (transportation footprint, avg. 2,963 food miles)
0.7 lbs. CO2 per lb. lettuce



II. CEA grown in central/western NY (light/heat, low winter light)
2.0 lbs. CO2 per lb. lettuce



III. CEA grown Long Island (light/heat, more winter light)
1.2 lbs. CO2 per lb. lettuce



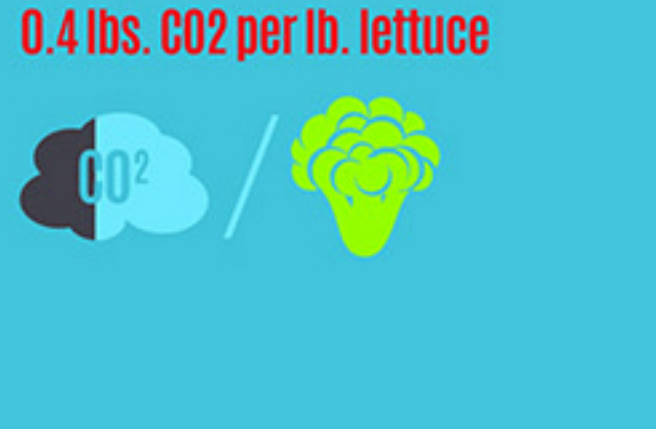
IV. Plant Factory (only artificial light)
5.5 lbs. CO2 per lb. lettuce



V. CEA adopting lighting and greenhouse advances (CNY/WNY)
0.6 lbs. CO2 per lb. lettuce



VI. CEA adopting lighting and greenhouse advances (Long Island)
0.4 lbs. CO2 per lb. lettuce



1. Source: Michelin Guide
2. Source: Zagat
3. Source: National Restaurant Association
4. Source: USDA
5. Source: “2015 Culinary Forecast”, National Restaurant Association

6. Source: Cornell University’s CEA Center
7. Source: USDA
8. Source: Tufts University Study
9. Source: Columbia University Study

10. Source: Cornell University’s CEA Center, average CO2 footprint for II, III, V, and VI based on CO2 emitted at the power plant to generate the electricity for plant lighting and natural gas heating greenhouses