

Organic Agriculture in U.S. Urban Areas Building Bridges Between Organic Farms and Education

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Author Background

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Summary

Organic urban farms can provide many benefits for urban areas, including access to fresh food for urban consumers and open space. Interest in urban farming seems to be growing in the United States. This presentation focuses on a subset of urban farmers—those using organic production methods—from a nationwide study in the United States. Although more agricultural technical assistance providers are focusing on urban area, the fact is that many urban organic farmers do not receive adequate support. The survey results showed that farm viability for organic urban farms is a key concern, and that most organic urban farms have very low gross sales. Profitability, financing, and production costs were rated the highest challenges. Farmers also reported moderate to high technical assistance needs in a variety of areas that Extension staff and other technical assistance providers can fill. This presentation explores the unique challenges and needs for organic urban farms.

Background

Urban agriculture offers many potential benefits to urban areas, such as green space and access to fresh food for urban consumers. For these reasons, urban farming has captured the attention of city residents and policymakers. Food policy councils and city governments around the country, in cities including New York City, Baltimore, and Chicago, have explicitly incorporated suggestions for their local food environments intended to facilitate the expansion of urban farming. Integrated into its urban environment, farming in the city uses and reuses urban resources (including labor and natural resources), and returns agricultural products to urban consumers. Until recently, urban farms have been little studied in the United States.

Farming in the city presents many challenges, some of which are common to all types of farming, and others unique to the urban setting. Urban farmers face significant knowledge gaps and institutional barriers. For instance, regulations, such as zoning, city plans, and building codes may prevent farms from locating in cities on vacant lots or on rooftops. Other potential obstacles to the expansion of urban farming include access to credit and capital, lack of municipal support for composting, land tenure, lack of infrastructure for marketing and processing food raised on the urban farms, environmental contamination, and limited access to water (Castillo et al. 2013; Hendrickson and Porth 2012; Kaufman and Bailkey 2000; Raes Harnes et al.2013).

Although a growing number of state land grant universities and their Cooperative Extension programs are allocating resources for urban agriculture (Reynolds 2011, Surls et al. 2014), there is a dearth of research and literature regarding urban agriculture available for technical assistance providers and educators to rely on. This is exacerbated by the fact that most Extension agents are trained to support rural farming, and are often located physically distant from urban centers (Pearson et al. 2010). Time restrictions and funding for technical assistance staff and education are also challenges (Surls et al. 2014). Furthermore, extension agents are not always able to provide assistance to organic rural farmers (Lillard and Lindner 2012; Parker and Lillard 2013). The end result is that potential and existing urban organic farmers do not receive adequate support.

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Main Chapter Methods and Results

A first-ever national study of urban farms was initiated in 2013 by the authors to assess the risks and economics unique to urban farming, and to examine the technical assistance needs of urban farmers. This presentation focuses on a subset of urban farms—those using organic production methods. The presentation will outline the characteristics of organic urban farms in the United States, and explore their challenges and technical assistance needs within the context of implications for traditional Extension and other technical assistance service providers and educators.

Methods

A mixed methods approach was adopted for the study. The first part of the study was a nationwide survey of urban farmers. The second phase collected key information from stakeholders in 15 cities. The survey collected data about the production and marketing practices of urban farms for the 2012 year. The instrument, developed in consultation with stakeholders, was implemented primarily online, with paper copies available upon request. Thirty-five questions inquired about production practices, marketing practices (e.g., products sold, marketing outlets), risks and challenges, information and technical assistance needs, and basic farm characteristics. The survey was promoted through various listservs nationally. Because no national list of urban farms is available, a snowball sampling method, which relies on the social networks between members of the target population, was adopted to allow the survey to reach the broadest possible sample of urban farms. In total, 315 respondents identified their farm as an "urban or peri-urban farm." Of these, 24 (8%) responded that they were certified organic and 77 (24%) responded that the farm is "legally exempt from organic certification requirements (because we sell less than \$5,000), follow the national organic standards, and sell or donate our products as "organic."

Urban Organic Farm Characteristics

Of the organic urban farms surveyed, an average of 74% of all production was reported being grown within city boundaries. These respondents reported that the urban farms had been in operation an average of 12.8 years and 40% of all the farms were new to the sector, with the farms established within the last 10 years and the primary farmer having 5 years or less experience.

The top product grown on the organic urban farms was fresh vegetables (63.3% of all production output), followed by fresh fruits (8.8%), meat and poultry (7.9%), and nursery items such as plants and herbs (7.3%). Although aquaponics are a frequently discussed topic in urban agriculture circles, only 0.1% of production was reported in fish. The survey also asked about production practices common to urban farming. The highest share reported using raised beds for production (73.3%), followed by container gardens (46.5%), greenhouses (39.6%), and high tunnels (23.8%). Vertical farming (23.8%), aquaponics (9.9%), hydroponics (7.9%), and rooftop farming (1.0%)—all generally more capital intensive—were reported by fewer respondents.

Given the farms' close proximity to the urban consumer markets, it is not surprising that urban farms sold their largest share of products to farmers markets and Community Supported Agriculture (CSA) ventures. Direct-to-retail and institutions (e.g., schools), as well as distribution through wholesale and other higher volume outlets, were limited for urban farms.

Farm viability and profitability have been raised as key concerns in the interviews with urban farmers and other stakeholders in 15 study cities. This concern is not surprising, given the small size of organic urban farms, since most farms reported less than \$10,000 in annual sales. In fact, organic urban farms are most likely to be below the \$5,000 threshold that requires organic certification; these farms can bypass the cost of certification and still gain the organic price premium when they sell their products. Few urban farms are certified, which suggests there are few benefits to organic certification for urban farms.

Urban Organic Farm Key Challenges and Technical Assistance Needs

Not surprisingly given the results of the study's informant interviews and the concern for farm viability, profitability, financing, and production costs were rated as the most challenging aspects for organic urban farms, with a third to half of respondents viewing them as very or extremely challenging (Table 1). These concerns were followed closely by managing pests, weeds, and climate issues, which were viewed as very or extremely challenging aspects by at least a quarter of organic urban farmers. Since few urban farms have substantial livestock numbers, it is not surprising that animal health is the least challenging aspect on these farms. Some topics raised in the literature as challenges in the urban setting—access to water, environmental pollution, and food safety—had comparably fewer farmers raising major concern in the survey. However, interviews with stakeholders seem to suggest that these topics are of higher concern in certain cities, mostly likely due to policy differences. For instance, access to water may be addressed in some city policies, while in other areas farmers have major problems with access and prices for water usage due to the lack of policy mechanisms.

When asked about technical assistance and information needs, urban farmers reported business and financial planning,

marketing and distribution assistance, and product development as the most needed technical assistance topics (Table 2). Throughout interviews nationwide, the legal aspects of farming land in urban areas has been raised as a key topics in most urban settings, and this shows up in the survey results for technical assistance, with more half the respondents noting that legal assistance for land access is moderately to highly needed and almost as many needing help with zoning and permitting. In general, however, many organic urban farmers reported a moderate to high need for many of the topics covered in the survey, showing demand for technical assistance in the sector.

Table 1: Production and Others Risks and Challenges for Organic Urban Farms

| Production/other aspects of urban farms | Very to extremely challenging | Slightly to moderately challenging | Not at all challenging |
|---|-------------------------------|------------------------------------|------------------------|
| Percent of Respondents | | | |
| Profitability | 52.3 | 42.0 | 5.7 |
| Financing | 43.6 | 41.3 | 14.9 |
| Production costs | 32.5 | 58.4 | 9.0 |
| Managing pests | 27.6 | 59.5 | 12.8 |
| Managing weeds | 24.7 | 62.3 | 12.9 |
| Climate (e.g., shade, temperature, wind) | 23.4 | 63.9 | 12.8 |
| Farm labor | 23.3 | 51.1 | 25.6 |
| Marketing venues for your products | 20.2 | 51.7 | 28.1 |
| Maintaining adequate yields | 19.1 | 69.2 | 11.7 |
| Managing business activities | 18.9 | 74.4 | 7.8 |
| Distribution and logistics | 18.7 | 60.5 | 20.9 |
| Access to water | 17.3 | 39.8 | 43.0 |
| Soil health | 14.0 | 71.0 | 15.1 |
| Environmental pollution (e.g., soil toxins) | 9.9 | 45.1 | 45.1 |
| Food safety | 6.9 | 56.3 | 36.8 |
| Animal health | 6.4 | 42.9 | 50.8 |

N=101

Table 2: Technical Assistance and Information Needs for Organic Urban Farms

| Technical assistance/information topics | Moderately to Highly Needed | Slightly Needed | Not Needed |
|--|-----------------------------|-----------------|------------|
| Business and financial planning | 69.1 | 14.9 | 16.0 |
| Marketing and distribution | 67.4 | 20.0 | 12.6 |
| Product development (value-added) | 54.2 | 29.8 | 16.0 |
| Land access (legal aspects) | 51.1 | 20.0 | 28.9 |
| Zoning and permitting | 46.8 | 20.7 | 32.6 |
| Urban production practices | 46.2 | 26.4 | 27.5 |
| Food safety | 43.0 | 26.9 | 30.1 |
| Labor | 41.3 | 27.2 | 31.5 |
| Water Use | 39.2 | 33.0 | 27.8 |
| Environmental contamination (soil, water, and air) | 37.6 | 31.2 | 31.2 |
| Farm security | 37.6 | 30.6 | 31.8 |
| Soil fertility and compost | 36.1 | 34.0 | 29.9 |

N=101

Core Messages and Conclusions Implications for Educators and Technical Assistance Providers

Organic urban farms can provide many benefits for urban areas, including access to fresh food for urban consumers and open space for communities. Interest in urban farming seems to be growing. A national survey of urban farms in the United States revealed that the profile of organic urban farms is one of young, recently founded farms and farmers, marketing directly to urban consumers. However, questions about farm viability and profitability were raised in the same survey; most organic urban farms (in comparison to conventional urban farms) had gross sales under \$10,000. This may indicate that larger urban farms are unwilling or uninterested in becoming certified organic. This dynamic should be further studied.

Not surprisingly, profitability, financing, and production costs were rated the highest challenges for organic urban farms in the survey. These results are supported by the informant interviews completed across the 15 study cities. That is, like many farms outside of urban areas, organic urban farms are struggling to remain viable and to increase farm profitability. Unlike many of their rural counterparts, however, in addition to the unique challenges of raising food in urban areas, urban farms have higher rates of inexperienced farmers and lower gross sales.

Farmers reported moderate to high technical assistance needs in a variety of areas that Extension staff and other technical assistance providers can fill. Informant interviews supported the view that Extension is largely invisible in many urban areas. However, there are also some cities where Extension staff are starting to focus on urban and peri-urban farms, and to modify their training and outreach to fit the needs of these farms. In many ways, organic urban farms have the same needs as other farms, especially small, diversified rural and peri-urban farms. However, there are unique challenges to urban farming that will require special attention. Informant interviews also suggest that urban farmers, again like many of their small farm counterparts outside of the urban area, are likely to look to networks of other farmers in their cities for technical assistance and advice. Facilitating and using these networks to enhance technical assistance provision can be one role that Extension staff can play in a time and financially strapped and which may be effective for many time and financially limited staff.

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References

- Castillo S, Winkle C, Krauss S, Turkewitz A, Silva C & Heinemann E (2013) Regulatory and other barriers to urban and peri-urban agriculture: A case study of urban planners and urban farmers from the greater Chicago metropolitan area. *Journal of Agriculture, Food Systems, and Community Development* 3(3), 155-166. doi: 10.5304/jafscd.2013.033.001.
- Hendrickson M & Porth M (2012). *Urban agriculture- Best practices and possibilities*. St Louis, MO: University of Missouri Extension Retrieved from: http://5728452006d458e3e74c-2f6bef8b2d7e04086879310a43d837d9.r29.cf1.rackcdn.com/Report_UrbanAg_USDN_Oct2012.pdf.
- Kaufman J & Bailkey M (2000) *Farming inside cities: Entrepreneurial urban agriculture in the United States*. Working Paper. Cambridge, MA: Lincoln Institute of Land Policy.
- Lillard PT & Lindner JR (2012) The changing interest in organic agriculture in Texas and its implications for Texas AgriLife Extension Service. *Journal of Extension*, 50(3).
- Parker JS & Lillard PT (2013) Initiating and sustaining conversations between organic farmers and Extension. *Journal of Extension*, 51(6), 6COM2.
- Pearson LJ, Pearson L & Pearson CJ 2010 Sustainable urban agriculture: Stocktake and opportunities. *International Journal of Agricultural Sustainability* 8(1-2), 1-19.
- Raes Harnes AM, Presley DR, Hettiarachchi GM & Thien SJ (2013) Assessing the educational needs of urban gardeners and farmers on the subject of soil contamination. *Journal of Extension [On-line]*, 45(1), Article 1FEA10. Available at: <http://www.joe.org/joe/2013february/a10.php>
- Reynolds K (2011) Expanding technical assistance for urban agriculture: Best practices for extension services in California and beyond. *Journal of Agriculture, Food Systems, and Community Development* 1(3), 197-216. doi:10.5304/jafscd.2011.013.013

Surls R, Feenstra G, Golden S, Galt R, Hardesty S, Napawan C & Wilen C (2014) Gearing up to support urban farming in California: Preliminary results of a needs assessment. *Renewable Agriculture and Food Systems*.
<http://dx.doi.org/10.1017/S1742170514000052>