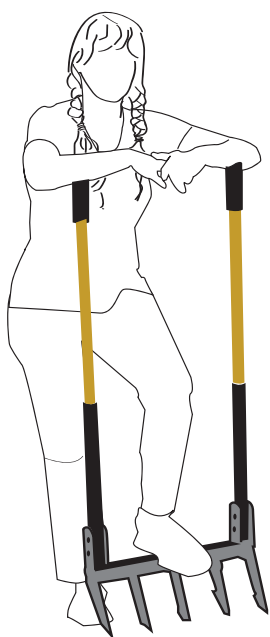


URBAN AGRICULTURE

OPPORTUNITIES AND CHALLENGES FOR INDIANA'S URBAN AGRICULTURALISTS



Diversified Farming and Food Systems
purdue.edu/dffs/
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THE BROADFORK IS AN INDISPENSABLE TOOL FOR MANY URBAN AGRICULTURALISTS. IT IS USED TO TURN, TILL, LIFT, AND AERATE THE SOIL WITHOUT DAMAGING SOIL STRUCTURE. THE EXTENSIVE USE OF HAND TOOLS IS ONE WAY THAT URBAN AGRICULTURE IS UNIQUE

URBAN AGRICULTURE CREATES

UNIQUE CHALLENGES

YET PRESENTS EXCITING OPPORTUNITIES

There are many benefits to urban agriculture (UA). Abandoned or under utilized lots can be re-imagined - not only as fertile grounds that provide healthy, accessible, local food for residents, but as areas that nourish community engagement and provide educational opportunities. Despite these well-documented benefits, the challenges that urban agriculturalists face are much less understood. Purdue Extension conducted a needs assessment to guide future research and extension efforts to better serve UA stakeholders and their communities. This bulletin, the second in a three-part series, presents the findings of the survey areas which sought to capture greater insight into UA production practices, the most pressing challenges facing UA, the issue areas producers are most interested in learning about, and where they prefer to go to gain new information to overcome their challenges.

SURVEY OVERVIEW

The online survey was the product of a multi-stage, iterative process created with the input and feedback from UA clientele across the state. Several community partners including the Indiana Soil and Water Conservation Districts (SWCD), the Indiana Natural Resources Conservation Service (NRCS), and NGOs such as the Hoosier Young Farmer Coalition helped to distribute the survey. It is not known how many individuals received the survey; however, 207 respondents accessed the online tool. It was completed by 95 and partially completed by 28, representing 59.4% of the respondents that accessed the tool online.



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WHAT DO INDIANA'S

URBAN AGRICULTURALISTS

PRODUCE?

Respondents were asked to identify the products they have produced in the past two years on their farm.



86.0%
Vegetables/Produce



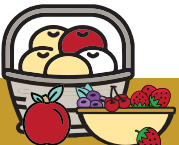
58.5%
Herbs



54.7%
Plant Starts
(vegetable or ornamental)



52.8%
Flowers



50.9%
Fruit



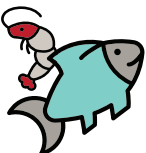
49.1%
Value-added Products
(e.g. salsa, preserves, honey,
maple syrup, soap, etc.)



30.2%
Livestock



18.9%
Mushrooms



1.0%
Fish/Shrimp

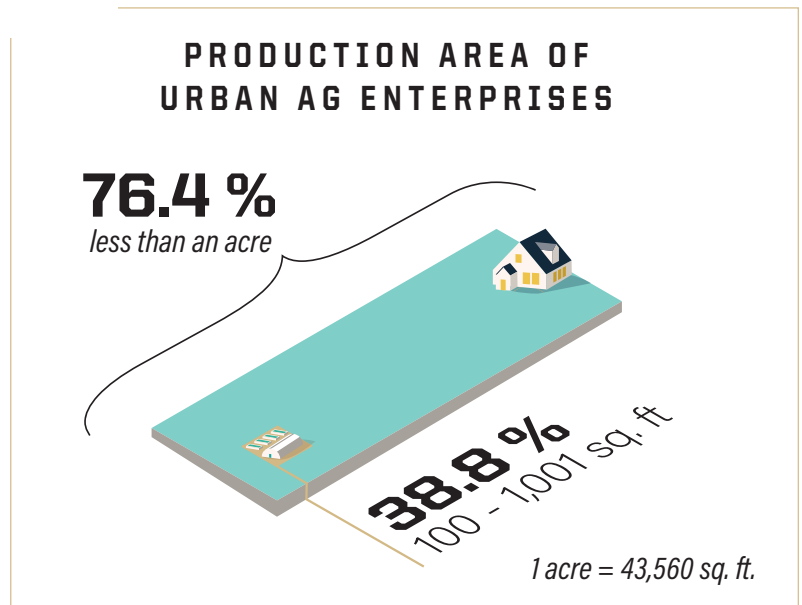


Aster Bekele, Executive Director and Founder of Felege Hiywot Center in Indianapolis is weeding a raised bed with two interns at the farm. Photo by Charles Jischke

FARM OVERVIEW

UA operates at a dramatically different scale than the average farm in Indiana. While the survey indicated that the size of UA enterprises varies considerably, the majority of respondents (76.4 %) cultivate an area less than one acre with 38.8% working on 101-1,000 square feet (Figure 1). The majority (55.9%) also indicated that they farm at one location, but close to a quarter (24.7%) farm at two locations. A few individuals (6.5%) farm at five or more locations.

Figure 1

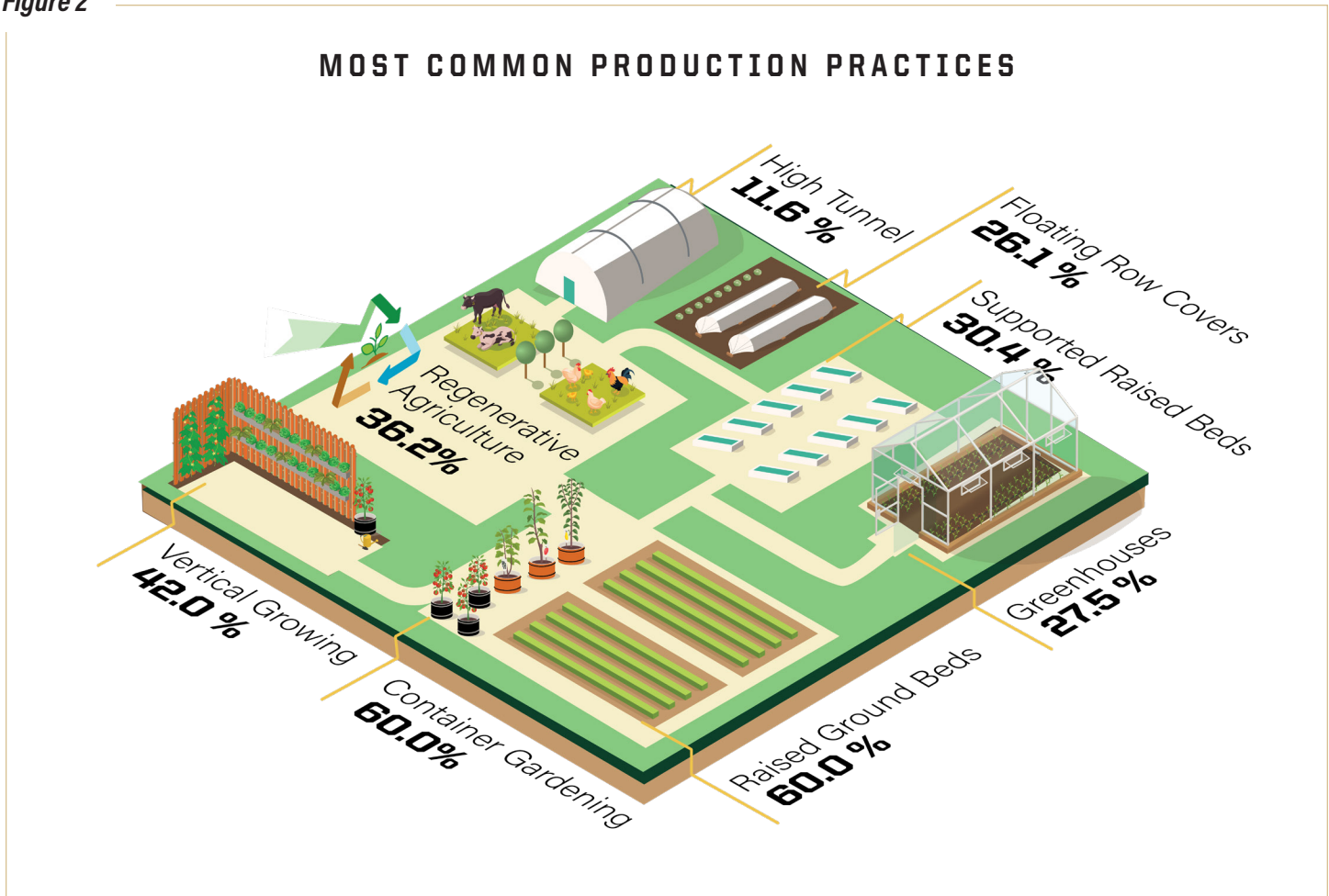


Establishing an enterprise that can financially support the farmer(s) is often a challenge. Due to a myriad of forces (i.e. land access, start-up costs) many work off-site and farm as a second job. The majority of respondents (62.3%) indicated that they are employed outside of their UA enterprise. For 46.2% of these urban agriculturalists, these off-farm jobs are full-time positions.

PRODUCTION PRACTICES

Urban agriculturalists employ a variety of techniques. When provided a selection of possible techniques (with the option to select all that apply), the most frequently used production practices include: raised ground beds and container gardening (60% each). These were closely followed by vertical growing (42%), regenerative agriculture (36.2%), supported raised beds (30.4%) and a greenhouse (27.5%). Of all the protected culture techniques, the one with the highest investment costs was the most utilized (i.e. greenhouse), followed closely by floating row covers (26.1%). Low tunnels or caterpillar tunnels (14.5%) and high tunnels (11.6%) are utilized at only half the rate.

Figure 2



WHAT ARE

THE TOP PRODUCTION

CHALLENGES?

1. Insect pest identification
2. Plant disease identification & management
3. Marketing/business development
4. Soil health (nutrients, pH, amendments)
5. Nutrient management for plant health
6. Weed identification or management
7. Irrigation

PRODUCTION CHALLENGES

When asked to rank the level of challenge posed by 16 factors impacting production, plus an open opportunity to write in something not listed, there were seven that stand out as somewhat to very challenging for more than 30% of the respondents. Ranked in order from most identified (53.8%) to least identified (30.3%) the top challenges are: insect pest identification, plant disease identification and management, marketing/business development, soil health, nutrient management, weed identification or management and irrigation.



Beautiful Edibles Farm in Newburgh, IN. Photo by Kate Jacobson



Shannon Farm and Homestead, LLC in Gary, IN. Photo by Kate Jacobson

LEARNING MORE

WHAT TOPICS ARE OF MOST INTEREST TO URBAN AGRICULTURALISTS?

1. Plant disease identification and management
2. Weed identification or management
3. Soil health (nutrients, pH, amendments)
4. Growing techniques (raised beds, low tunnels, high tunnels)
5. Insect pest identification or management
6. Nutrient management for plant health

AREAS OF INTEREST

The survey sought to identify the greatest learning interest areas for urban agriculturalists. While respondents expressed interest in all 16 of the options presented, there were six production practices and challenges about which more than 60% of the respondents wanted to learn more. These areas of interest mapped closely to the top production challenge areas, however growing techniques (e.g. raised beds, low tunnels, high tunnels) was unique. So, while it may not be a challenge, urban agriculturalists have identified it as an area of ongoing interest.

PREFERRED WAYS OF ENGAGING WITH PURDUE EXTENSION

The most preferred format for receiving information was identified by the majority of respondents (>60%), in ranked order, as direct e-mails, face-to-face workshops, websites and online workshops. In-person learning events remain a preferred way for accessing new information. This is confirmed by respondents' overwhelming willingness to travel to participate in UA Extension programs (87.2%) but the distance most acceptable is 1-25 miles (50%). Increasing the locations of in-person programs throughout the state, beyond the two-to-three most traditional metropolitan centers, has the potential to increase engagement with urban producers. While 37.15% of respondents identified that they are not looking for more ways to be directly involved in UA activities with Purdue Extension, the remainder were willing to participate in a variety of capacities. On-farm collaborative research was the most appealing (46.1%), followed by a willingness to help plan local Extension programs (34.8%), or hosting the trainings/tours with Purdue Extension on their farms (33.7%).



WHERE DO

INDIANA'S URBAN AGRICULTURALISTS

SEARCH FOR INFORMATION?

TOP 10 RESOURCES

1. **67.9%** *Purdue Extension Educators in my county or nearby counties*
2. **63.0%** *Farmers I know who operate UA farms/gardens*
3. **61.7%** *Purdue Extension website*
4. **53.1%** *My own research on the internet*
- (Tie) 5. **46.9%** *Indiana Small Farms Conference or other conferences*
- (Tie) 5. **46.9%** *Soil and Water Conservation Districts (SWCD)*
6. **37.0%** *Farmer associations and groups (e.g. Hoosier Young Farmer's Coalition, Black Independent Growers)*
7. **32.1%** *Sustainable Agriculture Research and Education Program (SARE)*
8. **29.6%** *Academic research papers*
- (Tie) 9. **25.9%** *Indiana State Dept of Agriculture*
- (Tie) 9. **25.9%** *Natural Resources Conservation Service (NRCS)*
10. **24.7%** *YouTube*

It is important to know where respondents go when searching for UA information. When provided a list where they were able to select multiple responses, the top three resources were: Purdue Extension Educators near me (67.9%), other UA farmers (63%), and the Purdue Extension website (61.7%). When selecting 'my own research on the internet,' respondents identified .edu and .gov sites, Extension in other states, Facebook groups, Google, YouTube, and a variety of other farmer's websites or news outlets. Specific YouTube channels identified include A Greener World with Joe Lamp'l, urban growers and small farm channels, any with interest in sustainable farming, Curtis Stone, Richard Perkins, NoTill Growers, Charles Dowding, MI Gardener, and Honey Tree Farms. No one specifically identified any Extension-generated YouTube channels.

SURVEY

INSIGHTS

The results of this needs assessment have provided a list of priorities for UA professionals and supporting agencies to address. There is much work to do to translate agricultural knowledge to Indiana's UA audience, but it is one that is receptive and eager to learn.

01

Management recommendations must fit scale and time constraints

With the majority of UA operations working under an acre, many on the scale of hundreds of square feet, irrigation, plant nutrient and pest management recommendations need to be translated into units applicable at the per plant or per square foot scale. Cultural and physical pest control measures are more accessible on this scale and should be integrated into recommendations for UA systems. Investment in prevention (i.e. tarping and exclusion) can save on time, which is limited when working full-time off farm, as is the case for 62% of our respondents.

02

In-person, hands-on engagement is highly preferred.

With the interest expressed by our respondents to travel to participate in Extension programs and many offering to participate in on-farm research or planning/hosting events, Purdue University has a willing audience with which to partner. This is a great opportunity to fill knowledge gaps, develop new resources, and engage in a co-learning process with a clientele group that serves an important role in our local food systems.

03

Purdue has the expertise to address UA challenges.

The UA needs assessment has provided a roadmap and instructions for Purdue's UA Extension program. The types of challenges that urban agriculturalists face like managing soil health and insect pests are not that different from conventional farmers, however these challenges may manifest in ways unique to the urban context. Factors such as the urban heat island effect or habitat fragmentation may impact pest identity or biology. Soil health management must consider exposure to industrial-related contaminants. The UA Extension Team can serve as the conduit for recruiting expertise to address these challenges.

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