SPIN Farming

Why You Would be Wise to Trade in Your Lawn for an Urban Garden

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Table of Contents

Executive Summary

Over the past century, urban expansion and industrial agriculture have transformed America into a vast land of unsustainable and environmentally harmful monocultures, or single species crops. Residential turf grass is the largest of these monocultures, blanketing an area greater than the entire state of Ohio. Lawns commonly require large amounts of chemicals in order to maintain their customary green, uniform appearance. Meanwhile, when it comes to food sourcing, most urban consumers rely exclusively on rural industrial farms that are often located thousands of miles away. SPIN farming, a new model of urban agriculture, is one potential solution that simultaneously addresses both of these problems. It offers residents a convenient opportunity to trade in their lawns for an organic, bio diverse vegetable garden that thrives on composted urban waste, improves the environment, feeds their family and local community, and provides steady income to area farmers, all at no cost to the owner of the land. In order for SPIN farming to have a broader impact, urban farming advocates should push for reallocation of government subsidies that currently contribute to a massive surplus of industrial corn and soy. To overcome social or political resistance, involving neighbors in the process and beautifying the garden with thoughtful landscaping can help gain their support.

Introduction

A garden is the interface between the house and the rest of civilization. ~ Geoffrey Charlesworth

For decades, the archetypal American dream has been a suburban house with a white picket fence and an immaculately manicured lawn. This prevalent cultural norm is encouraged by the real estate business and heavily marketed to the general public by a turf grass industry that is worth $35 billion annually (Matheny, Traunfield, Raupp, & Brown, 2009). A 2006 survey, conducted in Nebraska, revealed that 90% of respondents take personal pride in the appearance of their lawn, and 85% believe that a well-kept lawn increases property value (Sewell, McCallister, Gaussoin, & Wortmann, 2010). The predominant practices of lawn care have also been both legitimized and enforced through a combination of moral-based cultural myths, suburban tradition, and municipal bylaws (Feagan & Ripmeester, 1999). Consequently, these practices continue to be socially reproduced through multiple generations without challenge.

Turf grass is commonly misinterpreted as a "natural" landscape, even though it usually requires toxic, synthetic chemicals in order to maintain a prescribed aesthetic appearance (Feagan & Ripmeester, 1999). Few, however, stop to think about the value that such meticulously cultivated lawns truly offer to their families and their community. Quigley (2000) calls American devotion to lawn care an "unrequited love." This assessment seems appropriate, considering that Americans spend an average of 65 hours a year just mowing their lawns, according to her research; and this does not even include any other sort of lawn upkeep activities such as the application of fertilizers or digging up weeds. With all the money and time spent on these patches of turf, shouldn't suburban residents expect more benefits in return?

What if there was a way for homeowners to have their yards landscaped for free and have a beautiful garden right in their own yard without having to do any of the manual work themselves? Residents and their families would be treated to abundant amounts of free, organic, fresh fruits and vegetables that grow right outside their home. Furthermore, by participating in this program, they would be helping to cleanup and protect the environment. In this scenario, the only requirement, the only catch, is that they must give up their lawn. It turns out that residential yards have much greater potential than most homeowners realize.

The hypothetical program described above has actually become a reality in Vancouver, B.C. and an increasing number of other cities around North America. This paper introduces a new approach to urban gardening called SPIN farming. It is an innovative agricultural model that involves proven techniques, offering homeowners an intriguing, low-risk opportunity to ditch their unproductive lawn in favor of a gorgeous, diverse garden; a garden that simultaneously improves the environment and produces fresh food for their family and local community.

Urban Expansion and Urban Myth

Over recent decades, urban expansion has systematically swallowed up natural wilderness areas and agricultural land. Because of this urbanization and suburban sprawl, residential lawns now cover close to 50,000 square miles. That area is larger than the entire state of Ohio and greater than the top eight agricultural crops grown in the United States combined (Diep, 2011). This means that lawns now occupy massive acres of land that formerly supported valuable agricultural crops, despite the fact that humans cannot consume turf grass, and the chemical inputs it requires to remain healthy have a considerably negative net impact on the environment.

A short, turf grass lawn is essentially an extremely long-lasting fad that began in the 19th century as an idealized and coveted status symbol. According to Quigley (2000), the residential lawn was a "conscious imitation of British Estate grounds." (para. 6). Throughout the 20th century, this glorified residential landscape began to trickle down to middle-class homeowners in suburbs across America, as these citizens tried their best to "imitate and identify with a wealthier elite" (Feagan & Ripmeester, 1999, p. 619).

Eventually, accelerated urban expansion and templated real estate development lead to a ubiquitous presence of the lawn, transforming this once coveted status symbol into a commodity. Consequently, the cultural significance of lawns rapidly evolved from a status symbol to a societal code that represented morality, virtuosity, respectability, and good citizenship (Feagan & Ripmeester, 1999). For over 150 years, the lawn has maintained its mythical moral status, thanks to organizations such as the U.S. Golf Association and the Garden Clubs of America

that equated well-kept lawns with cleanliness and even civic responsibility (Quigley, 2000).

In this same vein, turf-covered yards have become a measuring stick for suburban residents to abstractly validate that their neighbors are indeed upstanding citizens who are not a threat to personal security. Ratliff (2002) explains that, in American culture, "a well cared for lawn has become a signpost of security, an indication that all is well in family and community" (pg. 42). People have an instinctual need to feel safe around their homes. This need for security is fulfilled by the "sameness" and sense of familiarity that a standard lawn represents across a neighborhood. On the flipside, Ratliff points to anthropologist Lee Coltman, who asserts that American communities often see unkempt lawns as a sign of potential domestic problems inside the home, or even a symptom of the owner's general laziness.

This peer pressure has been bolstered by an eager lawn industry that swiftly re-focused its marketing from selling the basic idea of lawns to promoting the regular maintenance of them through products ranging from high-end, motorized lawn mowers to weed killers, pesticides and fertilizers. They did their part to reinforce the moral and social mythology surrounding well-manicured lawns with targeted messaging about the community, functional, and real estate benefits that turf grass provides (Feagan & Ripmeester, 1999). To this day, the industry’s marketing materials still emphasize concepts such as curb appeal, higher property value, community, personal pride, and safe play-surfaces for children.

Beyond the socialized policing of lawn maintenance in communities, many towns and cities even adopted property standards in their bylaws that allow for legal enforcement. Homeowners could be heavily fined for not cutting their private lawns to a sufficiently short length (Feagan & Ripmeester, 1999). All of this "machinery," as Feagan & Ripmeester call it, preserves the perception that the lawn is simply a natural part of the suburban landscape.

The Negative Impacts of Monocultures on the Environment

Despite common perceptions, turf grass is not a natural landscape. It is planted as a non-native monoculture in residential yards, meaning that it consists of a single strain or species of seed. This is an industrial product that is grown without variation because the established aesthetic of a residential lawn is that it must look uniform and the same length across the entire yard (Robbins & Birkenholtz, 2003). This concept of uniformity and mass row crop production is the same one used in industrial agriculture, outside of the city, to grow corn, soy, wheat, and other food staples.

According to Michael Pollan, "Monocultures are very dangerous things" (Joanes, 2009). He elaborates that monocultures do not occur in nature because growing too much of the same thing, in one place, produces a significant ecological imbalance. Industrial mechanization of agriculture, however, has forced farmers to abandon traditional short-term rotations of diverse polycultures in favor of long-term rotations where the same crop is planted on the same land year after year (Joanes, 2009). These monocultures are all competing for the same vital minerals in the soil. Meanwhile, the soil does not benefit from a diverse, complementary ecosystem of varied species, or a cyclical crop schedule, so it never becomes organically replenished (Fleury et al., 2010). Sometimes the soil becomes depleted to the point that even synthetic fertilizers can no longer improve yields (Leckie, 1999). In contrast, members of a balanced polyculture ecosystem do not need to directly compete for resources because they have a symbiotic relationship to each other.

Monocultures also encourage an overgrowth of destructive pests, which target that particular species, be it diseases, insects, or weeds. These pests are a natural warning sign that the ecosystem is out balance (Georgiadis, 2010). Crops such as corn, soy, and turf grass, all require an ever-increasing amount of pesticides, fungicides, and herbicides in order to survive (Joanes, 2009). These toxic chemicals threaten the health of both humans and wildlife (Marshall, 1977). Furthermore, such treatments are a shortsighted solution to protect crops because their application ultimately increases pest resistance. In balanced, bio diverse environments, pest and disease threats are automatically controlled (Georgiadis, 2010).

In the 1980s, when the environmental movement began teaching the public about the ecological damage associated with lawn care, the lawn industry swiftly co-opted this opposition's language (Feagan & Ripmeester, 1999). Pro-industry organizations, such as The Lawn Institute, started making deceptive claims about the environmental benefits of turf grass, including that it controls pollution, reduces soil erosion, and purifies our water supply (http://www.thelawninstitute.org/). These marketing messages were designed to convince people that lawns are a beautiful, natural, and environmentally friendly landscape. In truth, there are actually many costs involved in keeping a monoculture lawn looking healthy and green.

One household can use 5,400 gallons or more of water each summer to keep an average size yard (1/5 acres) from turning brown. In certain Western states, 60% of urban water use goes to taking care of lawns (Ratliff, 2002). Ninety-one percent of the residents in the 2006 Nebraska survey used fertilizer on their lawns (Sewell et al., 2010). Meanwhile, 70 million pounds of pesticides are used each year by Americans to keep insects from damaging their yard turf (Quigley, 2000). In addition, gas-powered lawn mowers generate as much pollution per hour as an automobile would over the course of a hundred-mile drive. (Ratliff, 2002). In other words, if one looks at the

cost-benefit ratio, growing turf as a monoculture more than negates any positive environmental effects that grass, as a plant species offers. Furthermore, the touted benefits of this grass are hardly unique. Many native, organically grown plant species, including wild grass and food-producing plants, provide the same sorts of benefits and more; yet, they do not require toxic or polluting inputs.

The Unsustainability of Industrial Agriculture

While urban expansion has lead to a dramatic loss of dedicated agricultural land and a whole host of environmental issues, industrial food production practices on the remaining land have compounded these environmental problems even further. According to Mougeot (1999), the United States now has "a highly integrated and energy-intensive food-supply system" (p. 12) that depends heavily on production abroad. With global import and export as the central focus of industrialized agriculture, this market-based system has been designed solely for high-yield production of a small number of monocultures. Because of global competition, industries and government tend to be more interested in economic factors than environmental costs or nutritional quality of food (Fleury, Reddick, & Tandon, 2010).

Large-scale, mechanized factory farms were made possible by extensive access to affordable fossil fuels. Crude oil has essentially become a substitute for human, manual labor. In the process, however, industrialized activities such as seed planting, crop gathering, processing, packaging, transportation, fertilizer production, and application of chemical inputs have proved to be extremely costly to the environment. This mechanized food system is ultimately unsustainable because every stage of the process requires fossil fuels, which, in turn, create more pollution. Consequently, agriculture now contributes more greenhouse gas emissions than any other major sector of the world economy. It also progressively compacts, erodes, and degrades fertile land over time (Fleury et al., 2010).

Beyond fossil fuel use, agricultural biotechnology, including chemical inputs and genetic modification, has also raised many concerns about

its ecological impact. The environmental degradation related to these practices threatens human living standards and health (Power, 1999). In just 20 years, between 1985 and 2005, the use of pesticides has increased 33 times over, despite the fact that it has turned out to be a losing battle. Beyond their apparent ineffectiveness, however, toxic pesticides can seep into the soil, travel through the air, and contaminate drinking water sources. They do not breakdown easily and they can easily be absorbed into human tissue, causing cancer, birth defects, and other diseases (Fleury et al., 2010).

This globalized food system, in tandem with massive urban development, has lead people to become further and further removed from the food they eat. Food transport distances have increased significantly and steadily over the past 50 years. One study demonstrated how all the ingredients for a particular container of yogurt (including the packaging materials) traveled almost 7,000 miles, but could have been just as easily produced within a 50 mile radius of its final destination (Perkins, 1999). Furthermore, much of the food that ends up on Americans' plates is now imported from overseas. This includes 39 percent of the fruit that we eat. Externally harvested fruits and vegetables travel an average of 1,494 miles, whereas locally grown produce only travels 56 miles, on average. In other words, conventional food is shipped 27 times further than its local counterpart (Pirog & Benjamin, 2003).

Industrial agriculture practices have left urban populations increasingly dependent on outside food sources, harming both the environment and human health. Cities currently are stuck in a model in which they import natural resources, while exporting waste and pollution. The key is to reorganize this system so that urban communities can implement their own closed-loop food system that organically operates as a sustainable, natural ecosystem (Nugent, 1999).

The Environmental Benefits of Urban Agriculture

In recent decades, researchers and community leaders in Canada have been on the forefront of designing urban food systems that directly address ecological impacts associated with urban expansion and the conventional, industrialized food production techniques that currently support North American cities today. The Canadian “sustainable-food-systems” approach consists of two types of projects. One deals with food distribution and marketing. It involves the development of retail channels such as farmers markets and community-supported agriculture programs. The other type of project deals with "self-provisioning." These programs help urban citizens move beyond consumerism and teach them how to grow, preserve, and prepare their own food (Power, 1999). Urban gardens are a primary example of a self-provisioning, sustainable-food-systems project.

Urban agriculture is practiced across small, dispersed plots of land within the city itself, rather than on vast, contiguous rural land. In the same way that urban housing must be designed for more efficient and dense usage, urban garden plots are engineered to produce significantly higher yields of crops per acre. They are also designed to support a much greater diversity of crops within the same physical space (Mougeot, 1999). This model is based on traditional agriculture systems that involve a "complex mosaic of different crops," where each crop only occupies a small fraction of the land (Joanes, 2009). This sort of sustainable, closed-loop farming model has been proven to produce 1000 times more food than large-scale, industrial practices, when analyzed on a per unit area basis. Diversity and small plots are key to the success of this model. They enable farmers to take advantage of age-old cyclical growing techniques to ensure that the

soil is continuously replenished with nutrients and optimally conditioned for the types of plants currently being hosted by the garden in any given phase (Fleury, et al., 2010).

The urban gardening model also has a number of environmental benefits. First, it allows for much more sustainable water use than turf grass lawns and other built landscapes. Second, community-based urban agriculture can drastically cut fossil fuel usage by obviating the need for heavy packaging and long-distance transport. Third, small-scale, urban food production reverses the trend of replacing human labor with machinery. Planting and harvesting within compact urban garden spaces does not logistically allow for diesel-powered equipment to be used, which further reduces pollution output (Fleury et al., 1999). Fourth, the inherent biodiversity that is central to urban gardens is highly preferable to monocultures and their associated chemical input requirements. Lastly, most urban farmers are highly motivated to use organic practices because the food production is done closer to home. Therefore, any chemical use may directly affect their own community, as well as their reputation as a conscientious local farmer (Nugent, 1999).

Recognizing Nature in Urban Landscapes

According to Mendes et al. (2008), "The decoupling of food production from food consumption in cities is a recent phenomenon" (p. 438). Before the globalized, industrial agriculture system took over, urban populations were always supported by local, sustainable food systems, sourcing both land and materials from inside the city, rather than from the rural surrounding area. In fact, this is an ancient practice. Graham (1999) has found extensive evidence that Mayan civilizations systematically incorporated agriculture, horticulture, and arboriculture into their cities. They consciously built structures to preserve soil, and conservation played a major role in urban life. In other words, Mayans did not necessarily treat their urban spaces as separate from nature, but rather as an integral part of it. In recent years, city planners have started to rediscover these strategies. Many municipalities, such as Portland, OR and Vancouver, BC, are now rapidly introducing policy initiatives for farmers markets, community gardens, and other urban agricultural landscapes (Mendes, et al., 2008).

Graham (1999) criticizes many scientists for assuming that human activities are destructive and unnatural. By making such assumptions, they fail to recognize that human activities often produce organic materials, which can positively contribute to nutrient cycling and soil fertility. For many years, waste management leaders have been interested in composting as a disposal solution. Gardens make a perfect destination for urban waste compost (Furedy, Maclaren, & Whitney, 1999). Nugent (1999) encourages urban planners to identify reusable organic wastes, such as dog manure, yard debris, and wood chips, and then build systems to collect these materials in a safe, efficient manner. Compost made from this waste can be productively used as an organic alternative to synthetic fertilizer. Recycling waste

materials is the final step to closing the loop in a sustainable, urban food system.

Seeking Out Viable Urban Growing Spaces

As illustrated, urban agriculture is a compelling solution to significant environmental problems surrounding both industrial rural agriculture and urban expansion. There is, however, a distinct challenge in making urban gardens a viable option for local food production: availability of land within a dense city.

In major cities, urban land space is always in high-demand, and it is often being sold at a premium. Urban agriculture advocates must compete with both retail and housing interests when looking to secure land from the city to build gardens. Vancouver, for example, continues to deal with population growth, as property values rise and urban construction becomes increasingly dense. Despite the environmental and social benefits, urban agriculture faces an economic reality that others are willing to pay higher rent for the same land (Mendes, et al., 2008). Like in rural industrial agriculture, economics tends to take priority over other societal factors when it comes to allocation and prescribed usage of land.

Graham (1999) calls for urban planners to be more creative and thoughtful about built environments. City officials should look at all urban locations as a potentially cultivable space. Mendes et al. (2008) adds that community leaders should search for urban spaces that do not necessarily compete with other development efforts. This might include alley ways, non-contaminated brownfields, and rooftops. Furthermore, forested areas can still be used for growing berries and mushrooms, while paved areas can be used for container gardens and greenhouse sites.

Rooftop farming is a particularly promising concept that cleverly addresses the city space requirements and economic issues

surrounding urban agriculture. New technologies for building rooftop gardens, such as hydroponic farms and solar-powered greenhouses, are increasingly emerging into the marketplace. These gardens offer a number of environmental benefits such as filtering pollutants out of the air before they reach the ground, reducing storm water runoff, and lowering heating and cooling costs for buildings (Runk, 2010). Rooftop agriculture is a great way to take advantage of sun exposure, as well as collect and reuse rainwater that otherwise would have just ended up in the city sewers (Fleury, et al., 2010). While rooftop gardens are a great option for a dense downtown location or an area that has a lot of manufacturing buildings with large, flat roofs, they do not address the environmental problems caused by suburban lawns. Residential neighborhoods that surround the city's core require a different sort of urban agriculture solution.

SPIN City

Commercial SPIN farming presents an alternative to industrial monoculture practices in both rural and urban settings. It concurrently solves major environmental issues related to food production and residential landscaping. According to the official SPIN farming website, this targeted system removes two of the largest barriers of successfully starting an urban agriculture project: capital and land. SPIN stands for "Small Plot Intensive." It requires only the most basic equipment and materials, and it can be conducted in small, non-contiguous plots of land, usually well under an acre. Farmers can typically utilize their own personal vehicle for transporting input materials and distributing produce to markets. No other expensive, mechanized equipment is required or even desirable because the plots of land are so small, and they are easily manageable with manual tools such as a rototiller. This also means that it is much easier to maintain the health and fertility of the soil at very little cost. All materials used in SPIN farming are organic and environmentally friendly. For instance, compost is obtained locally from reusable urban waste. Because this model involves polycultures, no synthetic fertilizers, pesticides or herbicides are required. The natural biodiversity creates a healthy, self-sustaining, cyclical ecosystem.

SPIN farming directly addresses the problem of having to economically compete for urban space with real estate developers and big business. SPIN farmers work cooperatively with residential owners by bartering or renting out yard space. More importantly, it presents a compelling alternative to unproductive, industrial turf grass products. Typically, homeowners offer up their yards to SPIN farmers, and in return for providing this land, the resident family gets to keep a portion of the food grown for their own consumption ("Urban farmers," 2010). By replacing these unsustainable lawns with thriving vegetable gardens, the impact of suburban sprawl and concurrent loss of fertile agricultural

land can be tempered and dramatically reversed. SPIN farming has the potential to convert massive acres of environmentally destructive monocultures into sustainable polycultures that actively improve air, water, and soil quality. Together, these residential gardens contribute to the development of a closed-loop urban food production system that obviates the need for cities to rely solely on remote industrial agriculture. By growing food right where consumers live, SPIN farming embraces the central spirit of urban agriculture, geographically re-connecting people to the food that they eat.

SPIN farming is an opportunity for professional, rural farmers to both diversify their businesses and bring them closer to consumers in urban centers. It offers these farmers the opportunity to practice more sustainable and organic farming, while at the same time significantly reducing their acquired capital. On the other hand, SPIN farming is also perfect for hobbyist farmers who only want to grow food gardens part-time (http://spinfarming.com/).

SPIN farming is relatively non-technical. The process is clearly documented and simple to learn. Moreover, in many cities, there are a surprising number of nonprofit and community organizations that have sprouted up in recent decades to educate urban gardeners who are just starting out, while also providing them with the tools and organic materials they need to be successful. For example, Growing Power, centered in Milwaukee and Chicago, teaches people how to grow their own compost and control pests in a natural, symbiotic manner (http://www.growingpower.org/). Meanwhile, FarmFolk CityFolk, in Vancouver, B.C., is a nonprofit that socially connects rural farmers and urban dwellers to help generate empathetic, sustainable agricultural communities. These farmers teach city residents how to effectively produce large amounts of food within their own built environments (http://www.ffcf.bc.ca/). In yet another example: for 33 years, City Farmer has published a vast collection of case studies and real-life stories about urban farmers. The organization "teaches people how to grow food in the city, compost their waste and take care of their home

landscape in an environmentally responsible way". The website emphatically encourages people to dig up their lawns and plant vegetables in their yards instead (http://www.cityfarmer.info/about/).

Kitsilano Farms: A SPIN Farming Success Story

Kitsilano Farms is perhaps one of the most successful case studies within the SPIN farming movement. Craig Heighway founded this program in 2008 after becoming inspired by Ward Teulon, the "City Farmboy" (Solman, 2010). Teulon started doing a form of SPIN farming several years earlier in donated yards near downtown Vancouver. At one point he was growing food in 12 different plots of land, including a seven-story rooftop. This added up to over 8,000 square feet of intensive, productive garden space. Teulon grows many unique varieties of garlic and other crops that cannot easily be found anywhere else. He directly sells the food he harvests to downtown restaurants and local residents (Fehr, n.d.).

The mission of Kitsilano Farms is to develop a local, sustainable food production system that emphasizes community, cooperation, and a healthy, active lifestyle. Based in the heart of Vancouver, this project effectively stitches together numerous small plot gardens in and around the Kitsilano neighborhood. This allows them to grow enough food to feed the entire community. Meanwhile, the farmers are able to generate a healthy income. While some of the land used comes from businesses, schools, churches, and public spaces, a good majority of the gardens are built right in homeowners' backyards. These dispersed plots, around various neighborhoods, are developed into a network of intensive, productive farms. After the landowner gets a portion of the produce for his or her own family, the rest of the harvest is marketed and distributed through Community-Supported Agriculture (CSA) programs, farmers markets, neighborhood cooperatives, and local restaurants (http://www.kitsilanofarms.com).

CSA memberships are one of the cornerstones of the Kitsilano Farms project in terms of funding and distribution. A CSA is a front-loaded investment model in which local consumers pay in advance for a portion of a farmer's total crop. Subscribers all around Vancouver sign up for the CSA at the beginning of the year. This helps support the farmers in the early spring when they need it most. In return, shareholders, like the homeowners who donate their yards, are provided a share of the produce. This assorted produce is delivered in a box each week (http://www.kitsilanofarms.com).

Spin Up, Spin Out: What SPIN Farming Requires in Order to Expand

Another major challenge for urban agriculture is raising adequate funding and revenue to make it a worthwhile venture for farmers to participate in. This issue is directly related to economies of scale. It is difficult for local urban farmers to compete with industrial agriculture because of all its lobbyist influence, mainstream distribution channels, and pricing advantages. Locally grown food is generally more expensive than conventional food that is imported into cities via supermarkets. It is also harder for consumers to find and access local food (Koc, et al., 1999). Often, these consumers must have enough education and awareness to consciously seek out farmers markets, CSA programs, and neighborhood cooperatives. In truth, it is much more convenient to simply drive to a large, chain supermarket down the street and do all your grocery shopping in one place.

One of the biggest reasons that conventional agriculture has managed to remain so dominant and perpetually profitable as an industry, despite its inherent unsustainability, are the subsidies it receives. These programs were originally setup to stabilize food prices, safeguard farmer incomes, and ensure adequate production to meet demand (Goodwin, Mishra, & Ortalo-Magné, 2005). Today, however, such government money is funneled through large corporations, incentivizing environmentally destructive practices such as overproduction of monocultures (Fleury, et al., 2010). By remaining fixated on export markets, the United States is inherently encouraging heavily processed food production (Johnston & Baker, 2005). This is why high-fructose corn syrup and soy ingredients can be found in so many conventional, packaged foods at the supermarket. Surpluses

provide these companies with a cheap, easy way to add flavor and texture back into processed food, even if such ingredients adversely affect the health of consumers. Over 50% of sweeteners are now corn-based, while 75% of the cooking oil used today comes from soy (Fleury, et al., 2010).

If even a fraction of these massive subsidies were re-allocated towards small-scale, local food production systems, such as SPIN farming, then urban agriculture could achieve economies of scale. According to Johnston and Baker (2005), community-farming systems must scale out to additional urban neighborhoods, especially those that are more poverty-stricken and food insecure. In order to reach mass adoption, urban agriculture programs must also scale up to address the political and macro-economical barriers. Johnston and Baker suggest that third sector non-profits, such as Kitsilano Farms, should continue to operate in an entrepreneurial manner but they must also be subsidized by government funds. They claim that this is the secret behind the success of Toronto's Good Food Box program, which provides a low-priced weekly box of produce to subscribing consumers. In the same manner, public funding could greatly help programs such as Kitsilano Farms expand operations, even the playing field, and ultimately become a viable alternative to rural industrial agriculture.

One of the most promising things about SPIN farming is that it is a "franchise-ready farming system." It is market driven with "precise revenue targeting formulas." Just like a fast-food restaurant franchise, SPIN farming offers a standardized, reproducible process with detailed workflows, business concepts, and benchmarks (http://www.spinfarming.com/). It is setup perfectly for scaling out across many neighborhoods within any given urban area. This model works as a direct market solution with minimal overhead. Therefore, it can easily be recreated in almost any city across the country. Lastly, urban agriculture doesn't necessarily need to compete with rural industrial agriculture, but rather it can complement it by offering more diversity and choice to city residents (Mougeot, 1999).

Winning the Hearts and Minds of Your Fellow Neighbors

The dominant concept of residential lawns as a natural landscape within suburban neighborhoods is nothing more than an ingrained sociocultural construction. This suggests that the beliefs, attitudes, perceptions, and myths that surround lawns can all be challenged by "transgressive practices." (Feagan & Ripmeester, 1999). The environmental movement has already begun to disrupt and destabilize the foundational ideologies that urban residents have assumed to be normal and desirable for so many decades in America. By casting a light on the negative effects that lawns can have on both the environment and our health, this movement has generated more broad awareness, as the messages and talking points have increasingly been echoed through mainstream media and word-of-mouth. It has forced people to pause and critically look at a landscape that was previously taken for granted as being essential and natural within a residential yard (Feagan & Ripmeester, 1999).

When it comes to normalizing urban agriculture within American urban societies, Johnston and Baker (2005) emphasize "social reproduction." They assert that food is not just a commodity, as industrial agriculture advocates tend to treat it. It is intricately connected to daily activities and everyday life. Food also plays a central role in most human social interactions. With this in mind, it is quite possible to simultaneously challenge the cultures of corporatized food and suburban lawn landscapes. This is exactly what the SPIN farming movement does.

Many of the benefits of turf grass that are promoted by the lawn industry and other pro-lawn organizations revolve around what a

beautiful or normal yard should look like. As discussed in this paper, such aesthetic values carry with them a powerful moral subtext that reflects both the individual residents who own it, as well as the neighborhood and community at large. Like lawns, vegetable gardens can also be designed to look neatly organized and aesthetically pleasing. In Havana, urban gardens are culturally considered to be attractive, natural, and socially entertaining. They play a major role in neighborhood beautification. Many residents even report that these gardens are a source of stress reduction and personal spirituality. In addition to aesthetics, urban gardens allow Havana residents to feel more connected to nature by helping them more richly appreciate their environment and the food they consume that grows within it. Even more encouraging, Havana gardeners reported that improving the environment is an important motivation to them in their choice of landscaping (Moskow, 1999).

Mendes, et al. (2008) list numerous social benefits to urban agriculture including participatory decision-making, food security, community safety, exercise, improved health, and stronger social ties throughout neighborhoods and surrounding areas. These are all significant moral values that can and should be culturally tied to residential gardens. Social support is important for urban gardens to be successful and to ultimately become recognized as a natural, mainstream landscape for suburban environments.

Craig Heighway, founder of Kitsilano Farms, recommends that would-be urban farmers talk to neighbors beforehand and transparently communicate the agricultural plans they have for their yards. By including neighbors in the process and making them aware of the numerous benefits, these fellow residents are more likely to be accepting and supportive of the change. He also recommends offering neighbors gift baskets of fresh vegetables and fruits from your garden to tangibly show them what suburban yards are capable of producing (Heighway, n.d.). Sharing of food creates positive emotional connections, trust, and intimacy between people (Johnston & Baker,

2005). Finally, Heighway suggests incorporating flowers into residential vegetable gardens to brighten things up and make them appear more aesthetically appealing. Of course, for similar reasons, you should also keep the garden well manicured and weed-free. This sort of attention to detail can combat any perceptions that replacing a yard with a garden is just an excuse to let weeds and other plants grow out of control (Heighway, n.d.).

Summary

The turf grass lawn is increasingly becoming recognized as an outdated residential landscaping trend that serves relatively little functional purpose, considering the negative environmental impact and massive amount of aggregate land that it takes up. SPIN farming is a uniquely positioned solution because it simultaneously addresses environmental threats on both urban and rural landscapes, concentrating on the integrated food system that critically links these areas together. Like other related urban gardening efforts, it still faces many challenges such as achieving economies of scale and overcoming social or political resistance. However, SPIN farming is deliberately designed as a franchise model, which makes it easily reproducible and scalable. By decreasing urban demand on conventional, industrial food sources and providing an attractive alternative to traditional suburban lawns, SPIN farming can play a big role in improving the environment, while also building a sustainable food production system.

In suburban neighborhoods across America, SPIN farming offers homeowners an opportunity to transform their yards into a lush, diverse, and beautiful green space, all at little or no cost to them. It allows them to get the most out of the land that they own, while also improving the health of their family, community, and overall environment. It encourages social interaction within neighborhoods and it benefits farmers who desire to break out of the industrial system so that they can begin growing organic, local produce.

If a person's yard truly is a reflection of their morality and good citizenship, and if neighbors see it as a communication of trust and security, then a carefully landscaped vegetable garden should be the perfect thing to represent these values. Not only do these gardens contribute aesthetic beauty to the surrounding neighborhood, but they also provide food security to the local community in a sustainable,

environmentally responsible manner. Famous gardener and author, Geoffrey Charlesworth (1994), once wrote, "A garden is the interface between the house and the rest of civilization" (p. 48). So, go on and put a positive spin on your neighborhood. Trade in your old chemical-soaked lawn for a new, organic SPIN garden today!

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