

Bachelor Thesis

Smart Sustainable Cities through Nature-based Solutions

To which extent do the characteristics of the BIGH Brussels Aquaponic Farm contribute to the concept of the smart sustainable city where technology, sustainable practices, and local people come together?

by

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Abstract

The concept of smart sustainable cities has appeared as a solution to the challenges of urbanization, such as sustainability, environmental degradation, and resource depletion. This research aims to investigate the potential of urban farming as a nature-based solution to transform European cities towards the concept of the smart sustainable city, where technology, sustainable practices, and local people come together. The project adopts a qualitative single case study of the BIGH Brussels Aquaponic Farm utilizing fieldwork observation and social media, accompanied by scientific literature. The collected data will be analyzed through a thematic analysis approach using coding tables. The theoretical basis for this study lies within three major theories: the smart city, the sustainable city, and social sustainability. The smart sustainable cities theory integrates these three theoretical frameworks and proposes that smart sustainable cities should be developed using a holistic approach that considers the social, economical, and environmental aspects of urban development. These three dependent variables were analyzed based on the independent variable, the characteristics of the farm. It has been found that by understanding the potential of urban farming as a nature-based solution, cities can implement innovative approaches to achieve sustainable development while also promoting social, economic, and environmental sustainability.

Abbreviations

| | |
|-----------------|--|
| BIA | Building-integrated Agriculture |
| BIGH | Building Integrated Greenhouses |
| CO ₂ | Carbon Dioxide |
| DNA | Deoxyribonucleic Acid |
| EU | European Union |
| GHG | Greenhouse Gas |
| ICT | Information and Communication Technology |
| NATO | North Atlantic Treaty Organization |
| NbS | Nature-based Solutions |
| NGO | Non-governmental Organization |
| O ₂ | Oxygen |
| pH | Power of Hydrogen |
| RAS | Recirculating Aquaculture System |
| SDGs | Sustainable Development Goals |
| SQ | Sub-Question |
| SSC | Smart Sustainable City |
| TA | Thematic Analysis |
| UN | United Nations |
| UV | Ultraviolet |

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1. Introduction

“Our struggle for global sustainability will be lost or won in cities”
(Ban Ki-moon, 2012)

With the ongoing trend of urbanization, cities are facing various challenges related to sustainability, environmental degradation, and resource depletion. Cities are defined as “hubs for ideas, commerce, culture, science, productivity, social, human and economic development” by the UN (United Nations Department of Economic and Social Affairs, n.d.). As of 2022, more than half of the world’s population settled in cities, which is expected to increase in the upcoming years (Guterres, 2022). Urbanization leads to an increasing demand for resources, energy, and land use. The challenge of feeding city residents is significantly increasing. While the soil fertility is consistently shrinking, human activities, globalization, and the exploitation of natural resources severely jeopardize the food sovereignty of the earth. As cities are responsible for 70% of the world’s greenhouse gas emissions (Dasgupta et al., 2022), the need for sustainable urban development has become increasingly urgent. In response to these challenges, the concept of smart sustainable cities has emerged as a solution.

Cities play a crucial role in fighting societal challenges and achieving sustainable development, and the United Nations has recognized the importance of urban sustainability through its Sustainable Development Goals. Their importance for achieving urban sustainable development is particularly emphasized by SDG 11, which aims to “make cities and human settlements inclusive, safe, resilient, and sustainable” (Jensen, 2022). Achieving this goal requires cities to focus on reducing their environmental impact while also improving the quality of life for their citizens. It requires a focus on social, economic, and environmental sustainability, as well as the integration of technology and governance to create smart sustainable cities (United Nations, 2023).

A smart sustainable city aims to integrate technological advancements, environmental sustainability, and social inclusion to create a livable and resilient urban environment (Bouzuenda et al., 2019). Nature-based solutions, such as urban farming, have been increasingly recognized as means to achieve the goal of a smart sustainable city (Brown, 2021).

Urban Farming, in particular, has gained significant attention as a promising nature-based solution for sustainable urban development. It is a form of agriculture that involves the cultivation of plants and rearing of animals in urban areas (Diemer et al., 2020). Urban Farming offers numerous benefits such as improved food security, reduced carbon footprint, enhanced biodiversity, and increased community engagement (Eigenbrod & Gruda, 2015).

Despite the growing interest in nature-based solutions and urban farming, there is still a significant knowledge gap regarding their potential to contribute to the concept of smart sustainable cities. Previous research has primarily focused on the technical aspects of urban farming, such as its environmental and economic benefits (Bibri & Krogstie, 2017). However, few studies have explored the cultural and social elements of urban farming and its potential to address broader sustainability challenges in cities. Additionally, the concept of a smart sustainable city as such exists but little research has been done on how to apply this theoretical term and what characteristics such projects include (Höjer & Wangen, 2015).

This research project aims to explore this knowledge gap by investigating the potential of urban farming as a nature-based solution to transform cities towards the concept of smart sustainable cities and its potential impacts on technology, sustainable practices, and community engagement.

To do so, the BIGH Brussels Aquaponic Farm, also called Abattoir Farm, an urban rooftop farm in Brussels, where fish, vegetables, herbs, and fruits are being cultivated, will be analyzed regarding the above-mentioned variables of technology, sustainable practices, and community engagement (BIGH, 2022 & 2023).

This results in the research question of *“To which extent do the characteristics of the BIGH Brussels Aquaponic Farm contribute to the concept of the smart sustainable city where technology, sustainable practices, and local people come together?”*.

To answer this question, a single case study of the urban farm “BIGH Brussels Aquaponic Farm” has been conducted through a thematic analysis, using fieldwork observation, the farm’s website and social media, and an interview accompanied by scientific literature.

The findings of this research can be useful to urban planners, policymakers, and other stakeholders who want to achieve sustainable and resilient urban development. Urban farming, especially urban aquaponic farming has the potential to be a nature-based solution that cities can use to achieve sustainable development while also encouraging social and economic sustainability.

The following part of this thesis will give a thorough understanding of the smart sustainable cities theory by connecting three major theoretical concepts and theories. The methodology section will describe how the research was operationalized while outlining the techniques used for the data collection and analysis. Next the analysis will be carried out. Following the analysis, a critical evaluation will be made and the limitations of this project will be discussed. Lastly, this paper will end with a conclusion answering the research question and addressing suggestions for further research.

2. Theory

Smart sustainable cities have become more popular as a potential solution to the challenges caused by climate change and urbanization. While cities serve as hubs for human activities, technology, sustainable practices, and citizen involvement are all viewed as crucial factors in the development of smart sustainable cities (Yin et al., 2015). The theoretical basis for this study lies within three major theories: the smart city theory, the sustainable city theory, and the social sustainability theory. These theories help to explain the concept of smart sustainable cities.

Smart City Theory

The concept of a smart city has developed throughout decades with numerous approaches and frameworks. It emerged somewhere between the 1960s as “cybernetically planned cities” (Gabrys, 2014) and the late 1990s during the “smart growth movement” (Neirotti et al., 2014). Even though this concept has been widely used among policymakers, universities, research institutions, governments, and ICT companies, its meaning is still vague and inconsistently understood (Bibri & Krogstie, 2017). Attaran, Kheibari & Bahrepour (2022) state that the term of a smart city generally refers to “the search for and identification of smart solutions that allow modern cities to improve the quality of services provided to citizens” (Attaran, Kheibari & Bahrepour, 2022: 514). Generally speaking, smart cities use data and technology to enhance the effectiveness, sustainability, services and quality of life. Those include public safety, energy, waste and water management, interaction and community, health, mobility and transportation, housing, and economic development (Attaran, Kheibari & Bahrepour, 2022). In order to increase the efficiency of a city, citizen participation, decreasing environmental effects of climate change, urbanization and globalization, and technology is being integrated into the systems of a city giving it its smartness (Hilty & Aebischer, 2014). Samih (2019) compared different definitions and found that they seem to have two main interpretations: “(a) [a] smart city is a living solution that integrates different life facilities such as transportation, power, and buildings in an efficient manner to improve the services for its citizens; (b) [a] smart city exemplifies the importance of sustainability of resources and applications for future generations” (Samih, 2019:4).

In scientific literature, approaches vary from top-down to bottom-up models. Bibri and Krogstie (2017) identify the first one as the technology and ICT-oriented approach, also called hard infrastructure, and the latter as the people-oriented approach, known as soft infrastructure, as the two mainstream approaches. The development of smart cities and such projects also differ by region and context, based on the countries' particular challenges and priorities (James et al., 2021).

Prospective smart cities will involve a number of different projects, including mobility, transport, and infrastructure, usage of urban land, networking, sensing and integrated databases, participatory governance and planning, economy, and urban intelligence (Batty et al., 2012).

Regardless of the potential of smart cities, critics worry that technology could harm social and environmental aspects. According to Fadda et al. (2021), smart city developments with its ICTs can result in exclusion, surveillance, and in exclusion of minorities. Therefore, developments and projects that aim at smart city integration need to be overwatched and evaluated closely.

To do so, Boyd Cohen developed an analytical framework named the “Smart City Wheel” which can be seen in figure number one. This approach identifies six key dimensions: Smart Economy, Smart Governance, Smart People, Smart Living, Smart Mobility, and Smart Environment. All of these aspects need to be combined and balanced out when carrying out smart city projects to ensure that the needs of a city and its citizens are being met, without leaving out environmental aspects (Giffinger & Gudrun, 2010).

Figure 1: The Smart City Wheel by Boyd Cohen



Source: Cohen, 2012

Sustainable City Theory

While the smart city theory emphasizes technological innovation, the sustainable city theory focuses on the sustainable development of cities while preserving the environment, including its biodiversity, natural resources, and ecosystems (Childers et al., 2014). During the 1960s and early 1970s the concepts of sustainability and sustainable development first took shape in response to the increasing economic, environmental, and social challenges that were being faced on a global scale. Two major crises contributed to this discourse: the urban crisis of decreasing life quality in the fast growing cities, and the economic crisis of environmental suffering through industrialization (Shirazi & Keivani, 2016). Bibri and Krogstie (2017) define the sustainable city as “an urban environment designed with the primary aim of contributing to improved environmental quality and protection and social equity and well-being over the long run, which can be attained through adopting sustainable development strategies to foster advancement and innovation in built environment, infrastructure, operational functioning, planning, and ecosystem and human service provisioning, while continuously optimizing efficiency gains” (Bibri & Krogstie, 2017: 193). Energy and resource efficiency, renewable energy, reduced pollution, ecosystem preservation, spatial proximity, scalable design, zero waste systems, carbon neutrality, sustainable

mobility, and livability are amongst the key characteristics of sustainable cities (Basiago, 1998; Bohl, 2000; Williams, 2009). That includes protecting all life on land and below water and recognizing the great impact of human activities leading to climate change, pollution, and resource scarcity (Harrington, 2016; Stern, 2018).

Dobson (1998) emphasizes the significance of adopting a long-term perspective when making decisions and implementing projects to ensure that “present actions do not compromise the ability of future generations to meet their needs” (World Commission on Environment and Development, 1987). To do so, a balance between economic, environmental, and social factors needs to be struck (Butler, 2011).

Sustainable urban development depends greatly on the spatial arrangement and form of buildings and objects in a city. There are four models to classify sustainable urban forms: urban containment, compact city, neotraditional development (new urbanism), and eco-city (Jabareen, 2006). Jabareen identifies the eco-city and the compact city as the most sustainable urban forms. Former focusing on ecological diversity and environmentally sound policies, the latter prioritizing density and mixed-land use (Jabareen, 2006).

The United Nations have recognized the importance of sustainable (city) development in its seventeen Sustainable Development Goals of the Agenda 2030 in 2015. These goals cover a wide range of areas such as challenges citizens have to face, environmental measures, economical growth and peace. (United Nations, n.d.). These goals are not only “blueprint[s] for peace and prosperity for the people and the planet” (United Nations, n.d.), but can also serve as an analytical framework when assessing the sustainable development of existing projects and initiatives. Figure number two gives an overview of the seventeen goals and targets set by the UN for sustainable development.

Figure 2: The Sustainable Development Goals by the United Nations



Source: United Nations, 2015

Social Sustainability Theory

Both theories, the smart city theory and the sustainable city theory point out the importance of the people. That is why a third theory must be considered when exploring and analyzing smart sustainable cities: the social sustainability theory. Social sustainability often serves as an umbrella term for the discourse of social equity and social justice, social capital, social cohesion, social exclusion, environmental justice, the quality of life, and urban liveability (Shirazi & Keivani, 2016; Widok 2009). Magis and Shinn (2009) argue that the two pillars of sustainable development, ecology and economy, have been greatly investigated, however the third pillar, social sustainability, has not been recognized as important. Therefore, no consistent definition of this concept exists and its meaning differs throughout scholars (Rocak et al., 2016; Lee & Yoo, 2016). Sachs (1999) simply argues that the fundamental principles of equity and democracy, along with human rights, including political, economic, civil, social, and cultural rights for everyone, must serve as the foundation of a good definition of social sustainability. Stren and Polese describe more in detail that “[s]ocial sustainability for a city is defined *as development (and/or growth) that is compatible with the harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population*” (Polese & Stren, 2000: 15–16).

Developing and preserving strong social networks, while promoting social capital and encouraging social cohesion, is being emphasized by the social sustainability theory (Kohon, 2018). Eizenberg and Jabareen (2017) argue that citizen-participation, ownership, and community empowerment in decision-making processes and building durable and inclusive governance structures are key characteristics to support social urban development.

There are various operational challenges of social sustainability when trying to create an analytical framework, such as the number and nature of indicators, the scale of operation, the geography of operation, and the field of operation (Shirazi & Keivani, 2016). Ly and Cope (2023) developed a conceptual model with five dimensions: equity, social inclusion and cohesion, safety and security, adaptability, and quality of life. These dimensions should guide scholars and policy-makers through a process of effective management of social capital as a resource while considering natural disasters and climate change.

Smart Sustainable Cities Theory

The smart sustainable cities theory integrates and combines these three theoretical frameworks by suggesting that the development of smart sustainable cities should be based on a holistic approach that recognizes the economic, social, and environmental aspects of urban development (Bouzguenda et al., 2019, Höjer & Wangel, 2015). After global shifts in urban growth, sustainability awareness, and technological developments, this new techno-urban phenomenon emerged during the mid-2010s and is considered a rather young concept (Höjer & Wangel, 2015).

These authors identified five developments that contributed to the creation of this concept: smart cities, urban ICT, sustainable cities, sustainability and environmental issues, sustainable urban development, and urbanization and urban growth (Höjer & Wangel, 2015). Bibri and Krogstie describe the smart sustainable city concept as “a social fabric made of a complex set of networks of relations between various

synergistic clusters of urban entities that, in taking a holistic and systemic approach converge on a common approach into using and applying smart technologies that enable to create, disseminate, and to mainstream solutions and methods that help provide a fertile environment conducive to improving the contribution to the goals of sustainable development” (Bibri & Krogstie, 2017: 193-194). Höjer and Wangel summarize this definition as “a city that meets the needs of its present inhabitants, without compromising the ability of other people or future generations to meet their needs, and thus, does not exceed local or planetary environmental limitations, and where this is supported by ICT” (Höjer & Wangel, 2015: 338).

The smart sustainable city is characterized by using advanced ICT which aim at helping cities become more sustainable and enhancing the quality of life for its residents. This includes implementing smart technologies, data collection and analysis, and synthesis (Bibri & Krogstie, 2017). Scholars argue that the smartness of a city is intertwined with sustainable practices and social dimensions (Marsal-Llacuna, 2016; Yigitcanlar et al., 2019).

This framework combines the environmental and social sustainability theories with the concept of a smart city and strikes a balance between them in order to build livable, prosperous, and resilient cities. It is built on the premise that cities are complex systems in need of integrated solutions to tackle sustainability challenges (Bibri & Krogstie, 2017). However, tensions can arise between the three characteristics of smart sustainable cities. These tensions may appear as conflicts between competing objectives, trade-offs between diverse types of solutions, or disputes regarding the most effective strategy for achieving smart and sustainable goals. If technology is not applied in a way that enhances sustainability, it could cause new environmental issues or intensify social injustices (Söderholm, 2020). The involvement of different stakeholders such as governments and their agencies, citizens, NGOs, and private companies is fundamental to achieve effective solutions (Huovila et al., 2019).

Nature-based Solutions

One approach towards smart sustainable cities are nature-based solutions. Nature-based solutions are an umbrella term which describes the actions that support both, biodiversity and human well-being (Brown, 2021). Brown (2021) defines three levels on which nature-based solutions are essential for the urban environment. The first one being “[w]ithin cities, where they can provide natural shading and reduce urban heat island effects and cooling needs, manage run-off water, improve health and well-being by reducing air pollution, and offer recreational spaces” (ibid.: 10). The second one being “[a]round cities, where they can form part of city-region interlinkages related to watershed management, recreational spaces, wildfire management, reduction and capture of CO₂, sand and dust storm reduction measures” (ibid.:10). Brown defines the third level as “[a]way from cities, where nature-based solutions can be applied to the procurement of goods and infrastructure as well as built environment decisions that influence urban supply chains” (ibid.).

Urban Agriculture

One approach to implement nature-based projects that aim to fulfill the smart sustainability goal is urban agriculture, also known as urban farming. The research question of this thesis specifically deals with urban agriculture. Orsini et al. (2013) define urban agriculture as the “production in the home or plots in urban or peri-urban areas”, often in small or limited spaces (Orsini et al., 2013: 699). This includes the

cultivation of vegetables and fruit crops, herbs, bee keeping, animal rearing on a small scale, wood-production, and aquaculture, where plant and fish cultivation is intertwined (Ghosh, 2004).

Urban agriculture provides a chance to improve the food supply, local economy, social integration, health conditions, and environmental sustainability simultaneously (Orsini et al., 2013). It is significantly impacted by external factors such as land competition, policies, consumption, quality standards, pollution, climate conditions, price trends, access to natural resources and labor, and market presence. Urban Farms utilize the city's resources like water, land, organic waste, and labor (Ghosh, 2004; Orsini et al., 2013). Scholars have found a variety of aspects that urban farming benefits: health, environment, ecology, social, educational, economic, food security, and valuable use of land (Bellows et al., 2008; Eizenberg, 2019; Ernwein, 2014; Nicola et al., 2020; Oldenburg, 2001; Orsini, 2013; Yusoff et al., 2017). Urban farming has the potential to contribute to the development of smart sustainable cities by providing a nature-based solution to challenges such as food security, resource management, and community resilience (Hui, 2011; Kyaw & Ng, 2017). Nevertheless, challenges such as limited space, access to resources, and potential health risks associated with urban soils and water quality must also be addressed (Canet-Marti et al., 2021).

Generally, the term can be divided into public and private types. Public urban farms are defined as accessible by everyone (Müller, 2011). These include community gardens, tactical gardens, street landscaping, balcony farming, forest gardening, greenhouses, rooftop gardens, horticulture, green walls, vertical farms, intercultural gardens, backyard gardens, guerilla gardening, and aquaponics (Erwein, 2014; Ghosh, 2004; Holland, 2004; Hui, 2011; Kurtz, 2001; Kyaw & Ng, 2017). All of these types can be used in a private setting as well and can be found indoor and outdoor.

Sub-questions

When wanting to analyze an urban farming project as the BIGH Brussels Aquaponic Farm regarding its contribution to a city's smart sustainability, I compared the different definitions of smart cities, sustainable cities, and social sustainability and combined them with the two previous explained methodological frameworks of the Smart City Wheel, where the smartness and technology stands in the foreground, and the SDGs, which aim to contribute to sustainability, to create my own framework for an evaluation of projects that aim to contribute to smart sustainable cities. In both concepts, the aspects of the people and social sustainability were stressed.

The three dependent variables of technology, sustainable practices, and local people became the center of the framework as I identified these aspects to be the main characteristics of a SSC project and formed the main research question.

Figure 3: Evaluation wheel for smart sustainable projects



Source: Own work

To answer the research question of to which extent the characteristics of the BIGH Brussels Aquaponic Farm contribute to the concept of the smart sustainable city where technology, sustainable practices and local people come together, the before mentioned aspects have to be analyzed. Therefore, three following sub-questions (SQ) are formulated based on previous theories and literature and my own model for evaluating smart sustainable projects combing the smart city wheel and the SDGs:

SQ1: In which way does technology, integrated in the BIGH Brussels Aquaponic Farm, contribute to the farm's smart sustainability?

“Technology” refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes, therefore the general and technological structure of the farm is being investigated (Collins & COBUILD, 2018: 1547).

SQ2: In which way do sustainable practices of the BIGH Brussels Aquaponic Farm contribute to solving environmental and sustainability challenges?

“Sustainable practices” incorporate customs and habits of the farm that are being maintained at a steady level without exhausting natural resources or causing severe ecological damage, here, it refers to the actions of the farm that aim to contribute to the preservation of biodiversity, natural resources, and all other factors affecting the environment (Collins & COBUILD, 2018: 1521).

SQ3: To what extent are local people integrated at the BIGH Brussels Aquaponic Farm to foster community engagement, the quality of life, and social inclusion?

The variable “local people” refers to all individuals living within the same geographical region as the farm (Collins & COBUILD, 2018: 890).

These sub-questions will guide the analysis of the three identified components of smart sustainable cities projects: technology, sustainable practices, and citizen participation.

3. Methodology

The aim of this thesis is to investigate to which extent characteristics of urban agriculture initiatives contribute to the idea of smart sustainable cities. To do so, a single case study of the BIGH Brussels Aquaponic Farm was conducted. The characteristics of the BIGH Brussels Aquaponic Farm serves as the study's dependent variable. The three dependent variables, technology, sustainable practices, and local people, combine the characteristics of smart sustainable cities as previously explained in the theory section.

Research Design

For the sake of this thesis, qualitative descriptive research has been carried out. Qualitative descriptive research aims to describe a phenomenon and its characteristics (Nassaji, 2015; Holly, 2013). It aims to identify different attributes such as characteristics, categories, trends, frequencies, and correlation (Bachelor Print, 2023). This type of research integrates a variety of research methods to investigate one or more variables. Unlike for other research designs, the researcher does not control or manipulate the variables, instead observes and measures them (McCombes, 2022).

Within the qualitative descriptive research design, a single case study was conducted. The research design of a case study entails a comprehensive examination of a single instance or event that is situated within a wider context or phenomenon in real life. The primary focus of case studies lies on depicting, examining, and clarifying the dynamics and complexities of a particular case (George & Bennett, 2005). Researchers aim to gain a deep understanding of the studied phenomenon which leads to the production of new knowledge and theories which could then be applied to a broader concept (Yin, 2018). By conducting case studies, a thorough understanding of processes, context, and variables can be gained. With this methodology, complex and intricate data gained through fieldwork observations or interviews for example, can be collected (Given, 2008; McCombes, 2023). Single case studies specifically focus on a single instance or event (Yin, 2018). Conducting a case study enables me to develop a thorough understanding of the context, processes, and factors that affect the implementation of farming projects in urban areas. Furthermore, conducting a single case study enables me to analyze this phenomenon in its natural environment without interfering (Denzin & Lincoln, 2018).

Given that Brussels is an important European city which actively promotes sustainability and urban agriculture initiatives, the choice of Brussels as a city and the BIGH Brussels Aquaponic Farm as a single case study is appropriate (European Environment Agency, 2020). Not only is the city of Brussels home to several EU institutions such as the European Parliament, the European Council, the Council of the European Union, and the European Commission, it also accommodates the headquarters of the NATO and an UN office (be.brussels, n.d.). By the year of 2030, the city of Brussels plans to source 30% of its food locally (Brown, 2021).

The BIGH Brussels Aquaponic Farm is a well-established and innovative urban farm that opened in May 2018. This farm uses an aquaponic system to grow food plants and fish (BIGH, 2022). On their website they state: "Through our project, we want people to have access to sustainable products and to connect with local producers in cities. We want to rethink current food production by bringing together technology, sustainable practices and citizens to create a unique system that works for consumers, producers and the environment." (ibid.: para. 2 - our values and mission). By specifically mentioning the

three aspects of smart sustainable cities, this farm showed great potential for a single case study of smart and sustainable urban agriculture projects.

Method of data collection

To collect the data for this single case study, both, primary and secondary sources were used, the former being fieldwork observation, the farm's website and social media, and an interview, the latter consisting of scientific articles and research.

Fieldwork observation research aims to observe, interact, and understand a phenomenon in its natural setting. Practical activity, judgment, interpretation, and description guides fieldwork. This type of observational research involves collecting impressions with all senses (Given, 2008). I conducted fieldwork observation research on May 31st of 2023 at the BIGH Brussels Aquaponic Farm Open Air event. This event is one of a number of open air events, held six times this year every Wednesday from the beginning of May until the end of June (BIGH, 2022). Before going into the field research, I informed myself extensively about the farm, its characteristics and the event. I acted as a participant observer, but also as a passive observer and conducted covert observation. The fieldwork observations were recorded through fieldnotes. Fieldnotes record in-depth descriptive details of people, places, things, and events and are a type of personal journal written in one's own words. This makes them unique to the researcher and spontaneous (Given, 2008). Given (2008) divides them into two categories, observations and speculative-personal reflections, and underlines the importance of the instant and detailed writing down of those observations. My fieldnotes were written down during the fieldwork observation and immediately after the event.

The website and social media channels of the BIGH Brussels Aquaponic Farm were investigated. By doing so, I was able to gain valuable insight of the farm's activities, characteristics, but also its self-presentation and the public response to that. The social media channels that were analyzed include Instagram and TikTok. The total of 251 Instagram posts, 152 Instagram Highlights, and 4 TikTiok videos were chronologically looked at and analyzed. The posts go back to 2015 when the farm was being built, however only content from the years 2020 until 2023 was used, otherwise the data set would have become too big. The BIGH farm also uploads content on Twitter, Facebook, and LinkedIn, however, these posts equal the content that was being uploaded on Instagram and TikTok. By using photographs, videos, and visual data, written and spoken word is being complemented while also enabling a more in-depth and holistic understanding of the studied phenomenon (Given, 2008).

Furthermore, an interview with Steven Beckers, the founder of the BIGH Brussels Aquaponic Farm, conducted by hub.brussels and published on their website on the 22nd of September 2021, was being used as data. Interviews entail gathering information from individuals with specialized knowledge and experience in the research topic (Given, 2008). However, it is not known when and in what setting the interview was conducted, how it was structured, what techniques were being used, or what role the interviewer took. The interview is not in a transcribed form, without pauses or natural sounds like humming and non-verbal language.

Lastly, the previously mentioned methods of data collection were accompanied by scientific literature, articles, and policy reports.

Method of data analysis

To analyze the data, a thematic approach was chosen. Thematic analysis segments, categorizes, summarizes and reconstructs qualitative data. It is mainly a descriptive strategy and its product is the description of a phenomenon and its overarching design. A thematic analysis produces nuanced causal explanations of events and phenomena, however it cannot produce causal knowledge (Fryer, 2022). This involves a coding strategy where the data is being segmented, categorized, and reduced (Given, 2008). The author writes: “The product of a thematic analysis, like any qualitative analysis, includes both the important concepts and processes identified in the study and the overarching patterns of experience by which those concepts and processes are manifested. [...] Although thematic analysis remains descriptive and is not designed to uncover an essential structure or develop a grounded theory, nevertheless, investigators are challenged to present findings that are both meaningful and useful.” (ibid.: 868).

To organize and categorize the data in a thematic analysis according to particular themes and concepts, coding tables are a useful tool (Given, 200). The coding of the three dependent variables happened in three rounds: the first and preliminary one before an extensive literature review has been carried out as an overview of the already known themes, the second one after the in-depth review of the theoretical frameworks of smart sustainable cities and urban agriculture, and the third one after collecting and analyzing the data based on the three variables technology, sustainable practices, and local people. This process involved reading and re-reading the data and scientific literature and adapting the coding tables accordingly. The coding tables include categories with their definition and subcategories. All of the coding categories and their criteria are based on the characteristics of the fundamental theories and definitions, the combination of the smart city wheel and the SDGs in my own figure, and the different data sources. Naming specific references for the coding categories and criterias is simply not possible since they are a combination of the literature and theory review, the creation of my own model and the collected data. The three final coding tables can be found in the *appendix*. Using the coding tables for the analysis, a comprehensive understanding of to which extent the characteristics of the BIGH Brussels Aquaponic Farm contribute to the concept of the smart sustainable city, and the role of technology, sustainable practices, and citizen participation can be provided.

Reliability and Validity

When carrying out case study research, two important aspects must be considered: reliability and validity (Klok, 2023).

“Reliability [...] is broadly described as the dependability, consistency, and/or repeatability of a project’s data collection, interpretation, and/or analysis” (Given, 2008: 753). To ensure reliability, multiple sources of data, such as fieldwork observation, social media, literature review, and an expert interview were used. Furthermore, multiple rounds of coding were carried out (Given, 2008; Klok, 2023).

“[V]alidity refers broadly to the “goodness” or “soundness” of a study [and is] broadly described as being dependent on the degree to which a study actually measures what it purports to measure - whether “the truth” is accurately identified and described” (Given, 2008: 909). To ensure internal validity two things will be considered: using an adequate design for answering the research question with its sub-questions as

it is done using the thematic analysis approach (ibid.; Klok, 2023). To ensure content or construct validity, a construction of the exact procedures to be used for data collection was documented (ibid.).

Ethical Considerations

There are several ethical considerations that must be taken into account when conducting research, particularly when involving human subjects (Monday, 2020). To tackle these considerations, the following steps will be taken:

1. **Privacy and Confidentiality:** Access to the data will only be allowed to the researcher and no personally identifiable information where noted down during the fieldwork observation. All data and information is safely stored on computers with password protection, used only for this study, and then deleted afterwards. The data set will also be uploaded to the University of Twente and is being stored for at least five years in case a revision of the data is necessary.
2. **Avoiding harm:** Care was taken to protect participants from harm or potential harm by mostly observing passively. When talking to participants, the questions were crafted before to avoid discomfort or distress. If any participant had expressed any signs of discomfort, I would have ended the conversation immediately.
3. **Ethical approval:** I sought ethical approval from the BMS research ethics committee to ensure that this study meets the ethical standards (number of ethical approval: 230353).
4. **Informed consent:** Since it is not known when and in what setting the interview was conducted, how it was structured, what techniques were being used, or what role the interviewer took and the interview was not transcribed, I do not know if informed consent was given by the interviewee, however, this has to be assumed since the interview was publicly available.
5. **The power of pictures:** Since photographs portray only a limited and desired picture and are presented within a specific frame, videos were taken into the data set as well and fieldwork observation has been conducted for my own impression of the urban farm.

4. Analysis

The following part is the centerpiece of this thesis. To evaluate smart sustainable projects such as urban farms, the three variables of “technology”, “sustainable practices”, and “local people” need to be investigated. Each dependent variable will be analyzed separately in relation to the independent variable, the characteristics of the farm.

SQ1: In which way does technology, integrated in the BIGH Brussels Aquaponic Farm, contribute to the farm's smart sustainability?

As it is already indicated in its name, the BIGH Brussels Aquaponic Farm makes use of aquaponics. Aquaponics combines fish farming, called aquaculture, while growing plants without soil, known as hydroponics (Goddek et al., 2019; hub.brussels & Beckers, 2021). The 4,000m² production surface of the farm is divided into three main parts: the fish farm, two greenhouses, and the outdoor gardens (Beckers, 2019; fieldnotes, 31.05.23; Instagram, 2020q).

Proksch et al. (2019) assigned the Abattoir Farm to the type of rooftop greenhouses. Here, a greenhouse is built on top of a host building as part of new construction. Because the additional weight of water can cause existing structures to be loaded beyond their capacity, the fish tanks are located underneath the crop growing space since they need less natural light (Proksch et al., 2019; fieldnotes, 31.05.23).

In aquaponics, the combination of aquaculture and hydroponics aims to reuse resources as often as possible (hub.brussels & Beckers, 2021). The fundamental idea is connecting these two closed circuits, an aquaculture circuit for the cultivation of fish and a hydroponic circuit for plant farming (ECF, n.d.; Instagram, 2021ak & 2021ar). The connected circuits combine the cultivation of plants and fish while reusing water and nutrients through biological filtration and recirculation (Diver, 2006; hub.brussels & Beckers, 2021). Individual pH levels for fish and plants can now be set in the water through the two water circuits. When adding further plant nutrients to the plant circuit, the fish circuit cannot be endangered. The fish tank water is used twice and functions as a fertilizer by carrying the fish waste (ECF, n.d.; Instagram, 2020ax). The CO₂ emitted by the fish tanks can be pumped to the plant circuit where the plants use it as supplementary fertilizer by neutralizing it (ECF, n.d.; hub.brussels & Beckers, 2021; Instagram, 2020am). This leads to a biological system that produces waste which will then function as nutrients for the second biological system (Diver, 2006).

The 14 fish tanks are installed in a recirculating aquaculture system (Rodrigues Do Amaral, 2020; Instagram, 2021ac). This indoor tank-based system allows the high-density and environmentally-controlled cultivation of fish (Zhang et al., 2011). It reuses the water by relying on various water treatment methods to preserve the highest quality of water for the fish (Summerfelt, 1996). The BIGH farm uses round tanks where the water can move in a circular motion. This creates a hydraulic pattern which leads to the tank cleaning itself (BIGH, 2022; Beckers, 2019). Due to the steady moving of the water, oxygen spreads evenly throughout the tank making the control and regulation of the oxygen level easier (Rodrigues Do Amaral, 2020). A cluster of water treatment phases is implemented to achieve ideal conditions for the fish while also ensuring adequate water quality. First, mechanical filtration happens, where the CO₂ is being removed. Then, biological filtration happens where nitrogen and ammonia is being stripped to avoid them turning toxic (Rodrigues Do Amaral, 2020). Heating and cooling systems, pipes and a pump circuit are also installed helping this filtration process. Next, the water runs through a

disinfection system made from UV lights that destroy DNA in biological organisms, gets treated with a protein skimmer, a degasser, and finally oxygen is added by an oxygenator (Rodrigues Do Amaral, 2020).

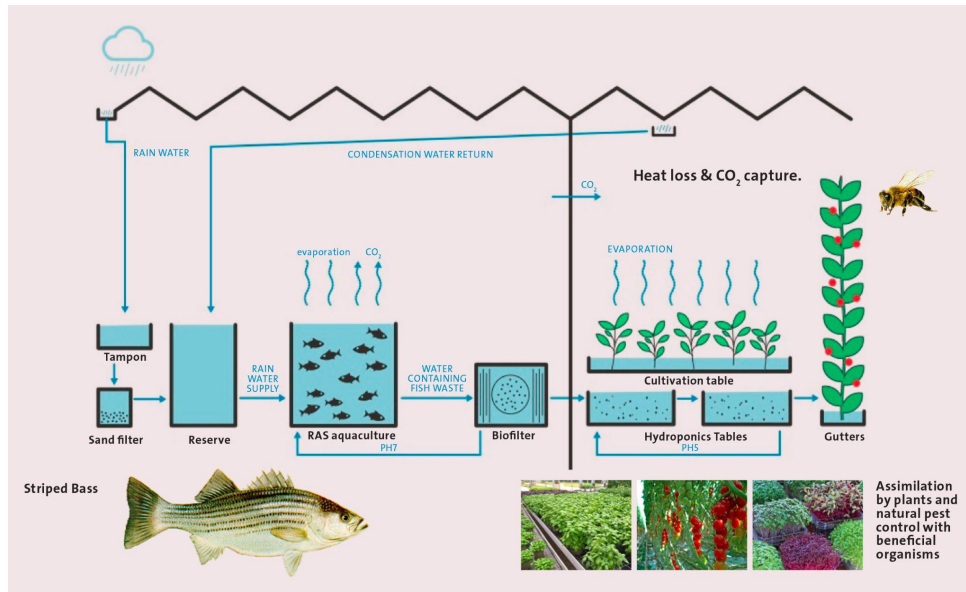
The fish farm is located next to the outdoor gardens close to the tomato fields as the water from the fish farm is among other fields used for the tomato garden as source of water and fertilizer (fieldnotes, 31.05.23). The fish farm is equipped with a monitoring panel for checking the water levels of values such as pH, CO₂, or O₂ (Instagram, 2021ar). Then, two rows of seven tanks each, 1.65 meters high and a water depth of 1.25 meters (Rodrigues Do Amaral, 2020), and their water canals, two drum filters as well as a food station and a “Moving Bed Biofilm Reactor” can be found in this hall. A freezing room, a food storage for the fish, and the processing room are located next to the hall. A lab for daily analyses is located in a different part of the building (fieldnotes, 31.05.23).

The greenhouses, combined with the fish farm, occupies up to 2,000 square meters of the cultivation space (Beckers, 2019; Rodrigues Do Amaral, 2020). The external structure is made out of a metal frame with corrugated polycarbonate panels that open and close to enable ventilation (TikTok, 2020d). The ventilation system functions hand-operated but also automatic to control the temperature. The automatic system is controlled by a software that pursues a specific protocol which modifies to various external conditions (Sanjuan-Delmas et al., 2018). Its roof is made out of glass to capture the sunlight (fieldnotes, 31.05.23; TikTok, 2020d). On the inside, polyethylene film curtains are being used for thermal protection (Sanjuan-Delmas et al., 2018). Additionally, the greenhouses have a rainwater harvesting system which collects the rainwater on the roof of the building and a system that collects the condensation water inside the building. This water then gets filtered through sand before being stored in a reserve tank, however, the condensation water goes directly into the tank since it has already been filtered (Beckers, 2019). The inside of the greenhouses consist of huge vertical beds and irrigation systems mounted on the ceiling (Instagram, 2020ak). There are various types, sizes, and shapes of beds, fitting to the different types of plants that are cultivated (Instagram, 2021h). Connecting them, water pipes run through them (TikTok, 2020a). Underneath, containers are installed to collect plant waste like falling leaves but also ripe plants that fall off before the harvest (Instagram, 2021i). In between those beds, large tracks with rolling seats are built in which makes the harvesting and plant care easier (Instagram, 2020y). On those tracks, cherry pickers drive as well to reach the upper beds (TikTok, 2020b & 2020c). Around them, packing stations and tables with all kinds of gardening equipment, plant pots, and packaging material can be found (TikTok, 2020b). Next to the large hall, refrigerated and cooled storage rooms stock the products before getting transported to customers (fieldnotes, 31.05.23). Supporting the greenhouses and supplementing the natural sunlight, violet LED lightening straps are installed as well (Beckers, 2019; Instagram, 2022b).

The outdoor garden makes up the other 2,000 square meters of the farm. It consists of large fields used for plant cultivation (Instagram, 2020an). Through them run watering systems and canvas covers lie over some of the fields to protect the plants (Instagram, 2022ak; TikTok, 2020d). Two bee colonies pollinate the plants in the outside garden (Instagram, 2022v & 2022y). Next to the outdoor gardens, a large field of solar panels, consisting of 10,000 solar panels is installed (TikTok, 2020a & 2020d). In the middle lies a rooftop terrasse (BIGH, 2022; fieldnotes, 31.05.23).

Overall, control technology and smart measurements are being used to monitor and regulate the whole farm (ECF, n.d.). By bringing all of the three parts of the farm together, the BIGH's aquaponic farming model comes to life which can also be seen in figure four.

Figure 4: The BIGH aquaponic farming model



Source: Beckers, 2019

At the Abattoir Farm, water, energy, and air flows are connected between the farm and the host building. This is called “building-integrated agriculture” (Proksch et al. 2019). This installation aims to mimic a natural ecosystem in an artificial environment.

SQ2: In which way do sustainable practices of the BIGH Brussels Aquaponic Farm contribute to solving environmental and sustainability challenges?

The farm is built on the roof of the Foodmet hall of the Abattoir site in Anderlecht (fieldnotes, 31.05.23; hub.brussels & Beckers, 2021). This building served as a slaughterhouse and market hall, now accompanying different vendors. In 2015, a common refrigerating system for the fish and meat of the vendors was installed. The farm has installed a heat pump which recovers waste heat from the Foodmet’s refrigeration system (Instagram, 2021ar). The water in the fish tanks is cooled to 17 degrees celcius and the greenhouses are heated using the fostered energy (BIGH, 2022). Nevertheless, the farm mostly gets its energy supply from the 10,000 solar panels installed which allows the farm to source mainly green energy (BIGH, 2022.; fieldnotes, 31.05.23). Green energy is a subset of renewable energy and is considered to provide the greatest environmental benefits such as reducing GHG emissions like carbon dioxide. Improved energy access, air quality, and energy security are its major benefits while avoiding climate change (Gielen et al., 2019). Since solar panels take up much space, installing them on a roof makes efficient use of urban structures and spaces (fieldnotes, 31.05.23).

As analyzed before, the farm collects the rainwater and condensation water with gutters and stores it to water the plants and the fish tanks. Additionally, the recirculating aquaculture system allows to reuse five percent to fifteen percent of the fish tank water after being filtered. (BIGH, 2022, Instagram, 2021ar). However, they have two additional sources for water. One of them being the tomato drainage water that remains when the tomato plants do not absorb all of the water. This water is then filtered and reused for the greenhouses (BIGH, 2022). Furthermore, the farm draws water from their own 60 meter deep well to supply the fish farm with new quality water (BIGH, 2022). These practices allow for sustainable water sourcing while the farm does not use the city's water. Instead, this self supply allows them to act independently and use 90 percent less water than other farms (BIGH, 2023). With the farm's "cradle-to-cradle" eco-design model supporting circular systems, the farm aims to reuse its waste and transform it into raw material while operating with limited energy input and maximum reusage (BIGH, 2022).

Not only contributes the farm's location to the energy supply, but also integrates it with existing city structures. The farm saved the costs of building a completely new construction while making efficient use of urban space. Though the costs for the rooftop construction were very high up-front, approximately 300–500 US Dollars per square meter, however in the long run, the farm saved many costs (Proksch et al., 2019). "Connecting a greenhouse to an existing building is one strategy for urban farmers looking to revitalize underused space and find a central location in the city" (Proksch et al., 2019: 534). The farm is partly made out of recycled materials. The buildings have floors made out of recycled panels, offices made of former shipping containers, and walls with plant fibers (BIGH, 2022).

Before cultivating salmon trout, the farm bred striped bass (Beckers, 2019). However, salmon trout turned out to be even more efficient because of their compatibility with the farm's recirculating aquaponic system and their sturdy adaptability to the water's temperature due to the heat pump (BIGH, 2022; Instagram, 2021ac). By cultivating salmon trout, the farm contributes to its biodiversity as 50 percent of the world's salmon population has already disappeared due to overfishing, climate change, habitat loss, and the spread of diseases (Instagram, 2022az). The feed for the fish is made out of European crops and organic feed that comes from fishing by-products (BIGH, 2022 & 2023; Instagram, 2021ar & 2022az). From red and yellow cherry tomatoes, spicy peppers such as yellow habanero, madame jeanette, and naga jolokia, white and graffiti eggplants, a number of seasonal vegetables are being cultivated at the farm (BIGH, 2023; Instagram, 2021q, 2021r, 2021al & 2021ao). Next to breeding fish and vegetables, the farm also grows various herbs that are available all year such as curly parsley, thyme, sage, basil, chives, coriander, flat leaf parsley, and basil pistou (Instagram, 2021ch & 2021cn). Seasonal herbs include dill, shiso, oregano, thai basil, and purple basil (Instagram, 2020bc). During the summer, raspberries, blueberries, blackberries, strawberries, red currant, and edible flowers are being sold (BIGH, 2023.; Instagram, 2022ai, 2022am & 2022bb). The selection of products changes every year (Instagram, 2020aj; Instagram Highlights, 17.08.21; 08.09.21, 20.09.21 & 27.05.22). A total of 12,000 kilos of fruits and vegetables, 180,000 pots of herbs, and 20,000 kilos of salmon trout are produced annually (BIGH, 2022). In 2022, the farm produced 6090 kg of tomatoes, 169 kg of spicy peppers, 2054 kg of aubergines, and 204 kg of strawberries (Instagram, 2022bb). By offering access to fresh and local products, the farm contributes to the city's food security (Instagram, 2021ar). The plants and fish are cultivated without any chemical fertilizers and pesticides which prevents chemical runoff and pollution (BIGH, 2022; hub.brussels & Beckers, 2021). Most products are sold in bulks, herbs are sold in pots and the majority of

the packaging is made from recycled materials, paper, and cardboard and is free from plastic (BIGH, 2022; TikTok, 2020a & 2020b; Instagram, 2020ax & 2021am) Local products such as tomato spread, eggplant baba ganoush, basil beer, basil tapenade, or different variations of the trout are available in their own shop at the farm (Instagram, 2020c, 2020g, 2020m, 2021au, 2022au & 2022aq). Unsold products are donated to local NGOs (Instagram, 2020d) and surplus plants used to create new products, such as basil pesto, tomato chutney, or salsa (Instagram, 2020bh, 2020bj & 2021e).

The products are sold to local restaurants and supermarkets within a 30 kilometer radius (Instagram, 2021bp). The short production and distribution chain aims to reduce CO₂ emissions and support local businesses and people (BIGH, 2023; Instagram, 2021ar). The farm's herbs are available in over 50 local stores, some of them being supermarket chains like "Cora", "Biostory", "Färm", and "Carrefour" (Instagram, 2021de, 29021dh & 2023b). The trout is currently sold in over 30 local stores and supermarket chains and at the "Fernand Obb" delicacy store in Brussels (Instagram, 2022ay & 2023a). Additionally to delivering to local supermarkets, the farm cooperates with different local restaurants and wineries including, "Titulus", "Brut", "Quent On A Faim", "Belgobon", and "Entre Nous" (Instagram, 2020ah, 2021cv, 2022n, 2023g & 2023k; fieldnotes, 31.05.23). Through these partnerships, this year's open air events at the BIGH farm include local food stands (Instagram, 2023j). Other businesses make use of the products through embedding them in their products such as the hot sauces of the company "Swet" which uses the farm's spicy peppers (Instagram, 2023e). The founder, Steven Beckers, underlines that this farm belongs to the type of farms that focus on the food production and sale, aiming to make profit. This farm has become profitable in 2020 according to Beckers. Its economic viability is dependent on the sales, the cooperation with other businesses and supermarkets (Beckers, 2019).

These sustainable practices align with different policies, regulations, and goals set by local, national, and international governments. On the regional level there are many policies and goals. The two most important ones are the "Regional Plan for Sustainable Development" (PRDD) and the "Good Food Strategy". The former describes the goal of using the territory for the development of a pleasant, sustainable, and attractive living environment while also using it for the development of the urban economy. Therefore provisions for the promotion of sustainable urban agriculture are being paid to support local businesses and initiatives such as the BIGH farm (be.brussels, 2018). The Good Food Strategy aims to establish a new food culture and promote innovation by expanding the local product supply and increasing public awareness (Instagram, 2020ba). Five principles have been formulated: inclusion, exemplary of local authorities, partnerships, changes in behavior, and independence. The implementation of these actions are among other stakeholders based on local projects and initiatives as written in the Good Food Strategy (Fremault, 2015). On the national level, the new Common Agricultural Policy of Belgium started in 2023. This policy aims to distribute funding more fairly, especially under small and medium-sized urban farming projects by having a budget of over 2.8 billion euros given by the EU (European Commission, 2022). On the international level, the SDGs by the UN, the EU's Green Deal and Biodiversity Strategy are only a few of the policies that the farms sustainable practices align with (European Commission, 2023; hub.brussels & Beckers, 2021).

SQ3: To what extent are local people integrated at the BIGH Brussels Aquaponic Farm to foster community engagement, the quality of life, and social inclusion?

To ensure the quality of the products, visitors and employees wear protective suits when entering the fish farm (Instagram Highlights, 28.02.22; TikTok, 2020b). The fish is bred without any antibiotics (Instagram, 2022ay) and the plants are cultivated without chemicals (BIGH, 2022). The feed for the salmon trout is made out of European crops which are certified sustainable and GMO-free (BIGH, 2022; Instagram, 2021ar). The water parameters of the fish tanks are constantly monitored to assure that the fish are being bred in high-quality water and do not get infected with diseases (Beckers, 2019; Instagram, 2021ar). The National Agency for Hygiene and Food Safety has established standards that have to apply for urban farms in Brussels. The BIGH farm's currents meet these standards (BIGH, 2022). All of these measures contribute to the health of local people by ensuring the quality of the products so that they can have access to fresh and healthy food that is rich in nutrients (Instagram, 2020al).

The plants produce oxygen through photosynthesis which reduces carbon emissions and improves the quality of air in the neighborhood. Good quality air is not only vital for the citizen's physical health, but also their mental health and happiness.

Another aspect where the farm contributes to the locals mental health and happiness are the community events held at the farm. Since the farm is located right in the city, with multiple bus stops, metro stations, and highways nearby, locals can easily visit the farm (fieldnotes, 31.05.23). The farm's events range from public ones to private ones. In the past, they have organized among other events Christmas activities in 2020 or collaborated with the "Brussels Beer Project" by hosting an event on their rooftop in 2021 (Instagram Highlights, 24.12.20; Instagram 2021bb). Additionally, they have hosted concerts such as of Ignacio Maria Gomez in 2021 or a techno music event collaborating with "Set de Table" and "Savage Restaurant" bringing local people, local food, and local music together (Instagram Highlights, 19.09.21; Instagram, 2020bu 2021bu, 2021bv& 2021bc). With the local food company "Nuu miso", the farm organized a cocktail event while bringing Japanese and Belgian culture together (Instagram Highlights, 11.05.22 & 01. 06.22). One of the most recent community events were the "BIGH Open Air" events. They consisted of six open air events that were held weekly on Wednesdays on the rooftop terrace of the farm from May until the end of June (Instagram, 2023j). From 5pm until 10pm people were able to sit on the rooftop terrace, enjoy local food and drinks, and listen to local music artists (fieldnotes, 31.05.23). The several possibilities to park cars and bikes, the free entry, and the signs showing where to go made the reception of the event pleasant and efficient (ibid.). The rooftop was equipped with several different seating options, from beer benches and deck chairs to regular chairs and a large bean bag. Beer tables, regular tables, and wooden pallets were used as tables. Several sunshades and a pavilion offered shade (fieldnotes, 31.05.23). For each event, the BIGH farm collaborated with local restaurants and offered freshly made food (Instagram, 2023k; Instagram Highlights 24.05.23 & 05.06.23). Vegetables, fruits, herbs, and trout from the farm were processed by the local companies at the food stands. From pizza and salads to salmon dishes and Thai food, different foods from around the world were offered bringing various food cultures together (fieldnotes, 31.05.23; Instagram Highlights, 05.06.23). The farm partnered up with local beverage companies like "Somersby", "Fritz Cola", "Atelier Cuarenta", "Rish", and "Belgoo" to offer all kinds of drinks such as cider, soft drinks, lemonades, iced tea, and beer (fieldnotes, 31.05.23; Instagram Highlights, 05.06.23). The prices for the meals and beverages laid within the local prices for meals. The smoked salmon sausage for example costs 12 euros, while a Belgoo beer was sold

for 3,50€ (fieldnotes, 31.05.23). On the 31st of May 2023 a local musician named “DJ Nathan Ocean” played the whole event melodic house techno making the people dance. A total of approximately 55 people participated on that day. Visitors appeared happy and said that they would come back for the next event. Some visitors stated that they were living in the Anderlecht neighborhood and already had been there the week before (fieldnotes, 31.05.23). They said that they became aware of the event either from friends or through social media. The majority of participants were estimated to be between twenty and forty years old (fieldnotes, 31.05.23). This event has brought together different people from different ages and backgrounds. Some stated that they came straight from their work with the event being a nice compensation for the rather busy day, others were local university students seeking to have a place to meet with friends. These different groups of people fastly blended together and it could be observed that new connections were made (fieldnotes, 31.05.23). Overall, the “BIGH Open Air” event contributed to the community building of the neighborhood, while offering fresh and local food and beverages through local collaborations. On social media, the farm also posts recipes from all over the world to promote different food cultures and offer community events for Belgian cultural holidays such as carnival or easter (Instagram, 2021az, 2022e, 2022p,f 2022r & 2022ac).

However, community events are not the only events the farm hosts. They also organize local and international educational events. For example, the farm has organized multi-day visits of children from kindergarten and different schools where they learned about local plants and aquaponic gardening or hosted workshops for children where they built insect hotels and taught them about the preservation of nature and biodiversity (Instagram Highlights, 06.04.21, 07.04.21, 08.04.21, 27.04.21& 26.04.22; Instagram, 2021c, 2021ai & 2022t). Besides local educational events, the farm has hosted five training events with Ghanaian students on water recirculation techniques that can be implemented in their home country as water scarcity is a challenge that is globally faced (hub.brussels & Beckers, 2021). This training was accompanied by local aquaculture consultants and experts who taught at the event (Instagram, 2023d).

Besides community and educational events, the farm hosts monthly visits for individuals in English, Dutch, and French that currently cost ten euros per person (BIGH, 2022; Instagram, 2020j, 2021af, 2021cr & 2022k). Businesses and Enterprises can book visits and events as well. These events range from educational visits and interactive team-building activities to various events and meetings (BIGH, 2022; Instagram, 2022h). An example of such events was held for a company called “Greenfish” in 2022. Here, a business event was paired with team building activities and food stands making snacks out of the farm's produce. The event was held inside the farm and outside with music and a dance floor in the evening (Instagram Highlights, 18.03.22). These events provide the chance for networking with companies that share the same goals and visions to promote sustainability in Brussels. The “Cork Rooftop Farm” sent one of their employees in 2021 for an educational exchange of urban agricultural expertise. There, not only the visiting company but also the farm itself profited from this exchange gaining valuable knowledge and exchanging new ideas (Instagram Highlights, 03.08.21; hub.brussels & Beckers, 2021).

For all visits and events, individuals, schools, NGOs, and businesses can book visits on the farm's website and via e-mail (BIGH, 2022). Generally, the farm provides a great set of information about various aspects of the farm on their website and social media channels (Instagram, 2021dk, 2021dl & 2021dm). People can access them from wherever and whenever. This is especially helpful for getting access to

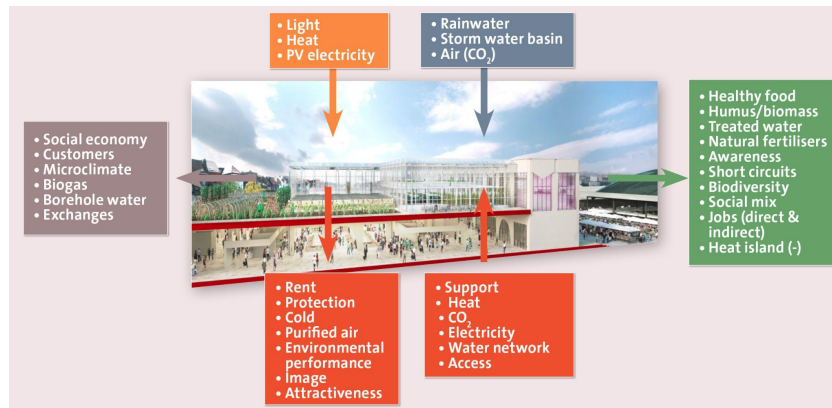
information about the farm, upcoming events, and products and where they are sold. Nevertheless, the farm can also be contacted via email, through a contact form on their website, and by telephone, giving everyone a chance to access information regardless of their age, location, or technical knowledge (BIGH, 2022). Especially on Instagram, but also on their other social media channels, the farm reacts to comments made by other users in the comment section and reposts content uploaded by local people, businesses, and restaurants (Instagram, 2022o & 2023j). At the entry of the farm, there is a box where visitors can submit anonymously feedback (fieldnotes, 31.05.23). These gestures create a feeling of connection, community, and involvement and makes the user be heard (fieldnotes, 31.05.23). The farm uses its website and social media channels not only to promote their products and invite to events but also to contribute to the awareness and education of societal challenges such as food scarcity, environmental challenges, and the need for nature-based solutions (Instagram, 2020f, 2020ao, 2022az & 2021ap). Although local people can participate in various events at the farm, they do not have the possibility to help and garden themselves or use this farm as a green and calm place to go to on a daily basis to decelerate (fieldnotes, 31.05.23).

The farm currently employs twelve full time employees and several interns (BIGH, 2022; Instagram, 2020o). By producing most of the products by hand, the farm provides more jobs for locals which are promoted on their website and social media channels (TikTok, 2020a & 2020c, Instagram, 2020ab, 2021p, 2021aj & 2021av). The employee's educational background varies and their expertise ranges from technical training to agricultural knowledge and economic education (BIGH, 2022; Instagram, 2020bb, 2020bg, 2021a, 2021g, 2021m & 2021at). Since Belgium has three official languages, the staff come from different linguistic backgrounds. Additionally, half of the current staff is female (BIGH, 2023; Instagram, 2021s). All these aspects contribute to social and gender equity, diversity and inclusion. As it is presented on social media, the employee's happiness at work is an important part of the farm's professional morality. This can be seen through posts where the staff is making salmon sushi during lunch breaks, pizza nights or on their private social media where they passionately share impressions of their work (Instagram Highlights, 30.03.22; Instagram, 2021bg).

The farm and its environment

Bringing together all the characteristics that were analyzed and presented before, a network of positive interactions of the farm is created which contributes to a smart and sustainable environment outside the farm. A summary of these positive interactions between the farm and its environment can be seen in figure five. Through integrating the farm on top of the Anderlecht site, it gives this historical site a new and sustainable life. The farm also offers the building insulation and thermal protection, which replaces rental income with the cost of maintaining the roof (hub.brussels & Beckers, 2021). By enhancing the building's reputation and decreasing its environmental impact, the farm raises the building's real estate value. The city profits through the absorption of heat through the greenhouses and the plant's humidity which reduces heat islands in the city and keeps its temperature below 26 degrees celsius (Beckers, 2019). These beneficial interactions help transforming the Anderlecht neighborhood and the city of Brussels to a smart and sustainable environment.

Figure 5: the positive interactions between the BIGH Brussels Aquaponic farm and its environment



Source: Beckers, 2019

5. Conclusion

This thesis aimed to answer the research question of to which extent the characteristics of the BIGH Brussels Aquaponic Farm contribute to the concept of the smart sustainable city where technology, sustainable practices, and local people come together. To do so, a single case study of the farm was conducted. The smart city theory, the sustainable city theory, and the social sustainability theory were combined to explain the concept of smart sustainable cities. These theories introduced three dependent variables that laid the foundation for the analysis. The three emerging dependent variables “technology”, “sustainable practices”, and “local people” were measured through the independent variable, the characteristics of the BIGH farm. The data consisted of fieldwork observation, the farm’s website and social media, and an interview with the founder of the farm Steven Beckers that was conducted through hub.brussels. These were accompanied by scientific articles and research. Coding tables were produced in three rounds of coding to categorize and organize the data for the thematic analysis.

The BIGH rooftop farm uses an aquaponics system which combines aquaculture and hydroponics. Through recirculation and filtration, this system enables the reuse of the water and its nutrients. The fish farm utilizes circular fish tanks in a recirculating aquaculture system which allows to cultivate a large number of fish in a limited indoor space while the circular water motion creates a self-cleaning mechanism and distributes oxygen evenly. To maintain good water quality, various water treatment techniques such as biological and mechanical filtration, disinfection processes, and oxygenation are used. The greenhouses use ventilation systems that are controlled automatically through software and manually, a rainwater harvesting system, and condensation water collection systems. Supplementing the natural sunlight, LED lights are also installed. The outdoor rooftop garden consists of fields for plant cultivation, two bee colonies for pollination, and solar panels for generating electrical energy. Through smart control technology, the farm measures parameters such as pH-levels, CO₂-levels, temperature, and O₂-levels for optimal water and cultivation conditions. The whole farm uses a “building-integrated agriculture” model where energy, water, and air flows are connected between the farm and its host building to mimic a natural ecosystem in an artificial environment.

The farm relies on a number of sustainable practices. Solar panels and a heat pump, which recovers the surplus heat from the refrigeration system of the host building, are the energy sources of the farm which promotes green energy production and reduces GHG-emissions. Next to collecting rain and condensation water, the farm also draws water from its own well and drainage water from the plants. The circular “cradle-to-cradle” design of the farm aims to maximize reuse while minimizing energy input. Waste is being transformed to raw materials and recycled materials and components make the structure of the farm more sustainable. The cultivation of salmon trout supports the biodiversity preservation and their feed is made out of European crops and organic feed from fishing by-products. To contribute to Brussel’s food security, the farm grows a variety of fruits, vegetables, herbs, and fish without chemical fertilizers and pesticides preventing chemical run-off and pollution. Through the short production and distribution chain, the products are delivered to local stores, supermarkets, restaurants, and companies to reduce CO₂ emissions and support local businesses. Its profitability is secured through various local collaborations, partnerships, and sales. The farm aligns overall with different regional, national, and international policies including the “Good Food Strategy” of Brussels, the “Common Agricultural Policy of Belgium”, and the UN’s “SDGs” and the EU’s “Green Deal”.

The quality of the products is ensured by abstaining from using chemicals and antibiotics on the fish and plants and using sustainable and GMO-free products, safety and hygiene measures for the worker and visitors, and constant monitoring of different parameters. By providing fresh and nutritious food, the practices of the farm contribute to the well-being and health of local people. Plants reduce carbon emissions, improve the air quality, and produce oxygen which has positive impacts to the locals physical and mental health. Through various public and private events, locals can engage in the farm, the community building gets promoted, and businesses can strengthen their internal structures through team-building activities. Next to entertaining, networking with like-minded companies, and encouraging cultural activities, the farm fulfills an educational purpose as well by offering training, workshops, and teaching sessions about environmental and urban challenges. Through its communication via their website, social media channels, and directly via email and telephone, the farm strives to be accessible and inclusive. Services in different languages, feedback mechanisms, and the diverse staff contribute to gender and social equity. Lastly, the farm provides paid working opportunities for locals.

Through the different characteristics of this urban farm, it is considered a nature-based solution and touches upon all three levels of NbS: within cities, around cities, and away from cities. The smartness of this project comes through its technology, structure, processes, and sustainable practices. By integrating the farm on top of the Anderlecht site, it gives this historical site a new and sustainable life while utilizing the buildings waste energy, microclimate, rainwater, CO₂, and orientation, natural potential of space, and sun exposure. In exchange, the city and host building provide access to labor force, thermal protection, stormwater, sunlight, and electricity. The farm contributes through its characteristics to both, the eco-city and the compact city.

There are certain restrictions to this thesis that need to be considered. First and foremost, the depth of the data collection may have been constrained by limited resources such as time, scientific research and literature, data, and financial resources for conducting multiple rounds of fieldwork observation. Even when trying the opposite, the whole research process is affected by individual and subjective beliefs, interpretations, and perspectives. Another limitation is the lack of external validity since this thesis investigated a single case study which makes it difficult to generalize findings and to compare other agricultural farms and SSC-projects. Using fieldwork makes it even more difficult to repeat and reproduce this study. During the fieldwork, I had to select whom I would interact with since it was not possible to talk to every visitor which limited the fieldwork and subconsciously promoted researcher bias. Another constraint was that I did not get any interviews with experts and employees myself which would have given valuable insight and information that might not be known to the scientific community yet. Furthermore, other important dependent variables may have been overlooked which could have potentially changed the outcome of the study and limited its complexity. Additionally, standardized procedures are lacking in the scientific community for evaluating such projects that aim at SSC which again affects the repeatability. I tried to overcome this limitation by describing transparently and in detail the methodology of this thesis. Finally, the constant changing of technology, sustainable practices, politics, and social perceptions may affect the relevance of this research project over time. Lastly, it would have been even more insightful if I would have analyzed all of the social media content, beginning in 2015, however, this would have not been possible due to the scope of this project, the limited time, and the limited word count.

It needs to be pointed out that the research data was mostly published by the BIGH farm. This puts the data into a specific positive frame of Aquaponics and purposely leaves out disadvantages and critique points. As the farm is dependent on cooperations with other businesses, investors, and consumers, highlighting limitations to this urban farming model would not benefit the farm. However, there are always weaknesses and critical aspects when technology is involved. And since this urban agriculture model is rather new, there are less studies on its effects and therefore also on the possible limitations to urban agriculture farms. For further research, long-term impacts of the BIGH Brussels Aquaponic Farm and urban farms in general on the health, social inclusion, environment, economy, education, stakeholder, and policy-making should be investigated. Future research should also examine the theoretical frameworks and design assessment models for urban projects that aim at smart and sustainable urban development. To ensure the replicability and scalability of the approach used in this thesis, assessing success factors and challenges of other urban farms is necessary.

This research project has shown to which extent the independent variable, the different characteristics of the BIGH Brussels Aquaponic farm, contribute to the concept of smart sustainable cities where technology, sustainable practices, and local people come together. The farm and its characteristics change rapidly which affects the outcome of the three independent variables. By understanding the potential of urban farming as a nature-based solution, cities can implement innovative approaches to achieve sustainable development while also promoting social, economic, and environmental sustainability.

References

- Attaran, H., Kheibari, N. A., & Bahrepour, D. (2022). Toward integrated smart city: a new model for implementation and design challenges. *GeoJournal*, 87(S4), 511–526. <https://doi.org/10.1007/s10708-021-10560-w>
- Bachelor Print. (2023, March 24). *Descriptive Research - Definition & Methods*. Retrieved June 19, 2023, from <https://www.bachelorprint.eu/methodology/descriptive-research/#1589198435223-d7cb7e64-b680>
- Ban, K. (2012, April 23). 'Our Struggle for Global Sustainability Will Be Won or Lost in Cities,' Says Secretary-General, at New York Event. United Nations High-level Delegation of Mayors and Regional Authorities, New York, United States of America. <https://press.un.org/en/2012/sgsm14249.doc.htm>
- Basiago, A. D. (1998). Economic, social, and environmental sustainability in development theory and urban planning practice. *The Environmentalist*, 19, 145–161. <https://doi.org/10.1023/A:1006697118620>
- Batty, M., Axhausen, K. W., Giannotti, F., Pozdnoukhov, A., Bazzani, A., Wachowicz, M., Ouzounis, G. K., & Portugali, Y. (2012). Smart cities of the future. *The European Physical Journal Special Topics*, 214(1), 481–518. <https://doi.org/10.1140/epjst/e2012-01703-3>
- be.brussels. (n.d.). *International institutions in Brussels — Région bruxelloise - Brussels Gewest*. Be.Brussels. Retrieved June 20, 2023, from [https://be.brussels/about-the-region/international-brussels/international-institutions-in-brussels#:~:text=NATO%20\(North%20Atlantic%20Treaty%20Organization,NATO%20is%20headquartered%20in%20Brussels.](https://be.brussels/about-the-region/international-brussels/international-institutions-in-brussels#:~:text=NATO%20(North%20Atlantic%20Treaty%20Organization,NATO%20is%20headquartered%20in%20Brussels.)
- Bellows, A. C., Smit, J., & Brown, K. A. (2008). Health Benefits of Urban Agriculture. *Journal Unknown*. https://www.researchgate.net/publication/238742667_Health_Benefits_of_Urban_Agriculture
- Bibri, S. E., & Krogstie, J. (2017). Smart sustainable cities of the future: An extensive interdisciplinary literature review. *Sustainable Cities and Society*, 31, 183–212. <https://doi.org/10.1016/j.scs.2017.02.016>
- BIGH, Brussels Aquaponic Farm. (2022). *Home - BIGH | Brussels Aquaponic Farm - Ferme aquaponique sur les toits de Bruxelles*. BIGH Brussels Aquaponic Farm. Retrieved June 20, 2023, from <https://bigh.farm/>
- BIGH Brussels Aquaponic Farm. (2023). *Product Catalogue 2023*. Canva. Retrieved June 24, 2023, from https://www.canva.com/design/DAFdLXtUVrE/ATkB_cr0s3jCHDZJrXUYlg/view?utm_content=DAFdLXtUVrE&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink#1
- Bohl, C. C. (2000). New urbanism and the city: Potential applications and implications for distressed inner-city neighborhoods. *Housing Policy Debate*, 11(4), 761–801. <https://doi.org/10.1080/10511482.2000.9521387>
- Bouzguenda, I., Alalouch, C., & Fava, N. (2019). Towards smart sustainable cities: A review of the role digital citizen participation could play in advancing social sustainability. *Sustainable Cities and Society*, 50, 101627. <https://doi.org/10.1016/j.scs.2019.101627>

- Brown, O. (2021). Smart, Sustainable and Resilient cities: the Power of Nature-based Solutions. In *UN Environment Programme*. UNEP. Retrieved April 3, 2023, from <https://www.unep.org/pt-br/node/29766>
- Butler, T. (2011). Compliance with institutional imperatives on environmental sustainability: Building theory on the role of Green IS. *Journal of Strategic Information Systems*, 20(1), 6–26. <https://doi.org/10.1016/j.jsis.2010.09.006>
- Canet-Marti, A., Pineda-Martos, R., Junge, R., Bohn, K., Paço, T. A., Delgado, C., Alenčikienė, G., Skar, S. L., & Baganz, G. F. M. (2021). Nature-Based Solutions for Agriculture in Circular Cities: Challenges, Gaps, and Opportunities. *Water*, 13(18), 2565. <https://www.mdpi.com/2073-4441/13/18/2565/pdf?version=1632457287>
- Childers, D. L., Pickett, S. T. A., Grove, J. E., Ogden, L. A., & Whitmer, A. (2014). Advancing urban sustainability theory and action: Challenges and opportunities. *Landscape and Urban Planning*, 125, 320–328. <https://doi.org/10.1016/j.landurbplan.2014.01.022>
- Cohen, B. (2012). *The Smart City Wheel by Boyd Cohen*. ResearchGate. https://www.researchgate.net/publication/317269039_FINEST_Twins_platform_for_cross-border_smart_city_solutions#pf4
- Collins & COBUILD. (2018). *Advanced Learner's Dictionary: of English* (9th ed.). HarperCollins Publishers.
- Dasgupta, S., Lall, S., & Wheeler, D. (2022, January 5). *Cutting global carbon emissions: where do cities stand?* World Bank Blogs. Retrieved April 3, 2023, from <https://blogs.worldbank.org/sustainablecities/cutting-global-carbon-emissions-where-do-cities-stand#:~:text=Cities%20account%20for%20over%2070,constructed%20with%20carbon%2Dintensive%20materials.>
- Denzin, N. K., & Lincoln, Y. S. (2018). *The SAGE Handbook of Qualitative Research* (5th ed.). SAGE. <https://www.daneshnamehicsa.ir/userfiles/files/1/9-%20The%20SAGE%20Handbook%20of%20Qualitative%20Research.pdf>
- Dictionary.com. (2023a). *automation*. Retrieved June 23, 2023, from <https://www.dictionary.com/browse/automation>
- Dictionary.com. (2023b). *circularity*. Retrieved June 23, 2023, from <https://www.dictionary.com/browse/circularity>
- Dictionary.com. (2023c). *integration*. Retrieved June 23, 2023, from <https://www.dictionary.com/browse/integration>
- Diemer, A., Nedelciu, E., Schellens, M., Morales, M. E., & Oostdijk, M. (2020). *PARADIGMS, MODELS, SCENARIOS AND PRACTICES FOR STRONG SUSTAINABILITY*. Editions Oeconomica. https://erasme.uca.fr/medias/fichier/strong-sustainability-book_1589579823001-pdf?ID_FICHE=69796&INLINE=FALSE
- Dobson, A. (1998). *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*. Clarendon Press. https://books.google.pl/books?hl=en&lr=&id=6pHUbmVGGtAC&oi=fnd&pg=PA3&dq=Environmental+Sustainability+Theory&ots=brMWN8OtAz&sig=9ybGOow6DYEHXKMSJGyiHIys0vQ&redir_esc=y#v=onepage&q=Environmental%20Sustainability%20Theory&f=false
- Eigenbrod, C., & Gruda, N. (2015). Urban vegetable for food security in cities. A review. *Agronomy for Sustainable Development*, 35(2), 483–498. <https://doi.org/10.1007/s13593-014-0273-y>

- Eizenberg, E. (2019). The foreseen future of urban gardening. In *Manchester University Press eBooks* (pp. 154–165). <https://doi.org/10.7228/manchester/9781526126092.003.0010>
- Eizenberg, E., & Jabareen, Y. (2017). Social Sustainability: A New Conceptual Framework. *Sustainability*, 9(1), 68. <https://www.mdpi.com/2071-1050/9/1/68/pdf?version=1483622168>
- Ernwein, M. (2014). Framing urban gardening and agriculture: On space, scale and the public. *Geoforum*, 56, 77–86. <https://doi.org/10.1016/j.geoforum.2014.06.016>
- European Environment Agency. (2020, December 2). *Belgium country profile - SDGs and the environment*. Retrieved April 3, 2023, from <https://www.eea.europa.eu/themes/sustainability-transitions/sustainable-development-goals-and-the/country-profiles/belgium-country-profile-sdgs-and>
- Fadda, E., Tiotsop, L. F., Manerba, D., & Tadei, R. (2021). Optimization Problems Under Uncertainty in Smart Cities. In *Handbook of Smart Cities* (pp. 1465–1491). Springer Nature Switzerland AG. <https://doi.org/10.1007/978-3-030-69698-6>
- Fryer, T. (2022). A critical realist approach to thematic analysis: producing causal explanations. *Journal of Critical Realism*, 21(4), 365–384. <https://doi.org/10.1080/14767430.2022.2076776>
- Gabrys, J. (2014). Programming Environments: Environmentalism and Citizen Sensing in the Smart City. *Environment and Planning D: Society and Space*, 32(1), 30–48. <https://doi.org/10.1068/d16812>
- George, A. L., & Bennett, A. (2005). *Case Studies and Theory Development in the Social Sciences*. MIT Press. https://www.academia.edu/19264308/Case_Studies_and_Theory_Development_in_the_Social_Sciences
- Ghosh, S. (2004). Food production in Cities. *Acta Horticulturae*, 643, 233–239. <https://doi.org/10.17660/ActaHortic.2004.643.30>
- Given, L. M. (Ed.). (2008). *The SAGE Encyclopedia of QUALITATIVE RESEARCH METHODS* (Vols. 1 & 2). SAGE Reference Publication. <http://www.yanchukvladimir.com/docs/Library/Sage%20Encyclopedia%20of%20Qualitative%20Research%20Methods-%202008.pdf>
- Guterres, A. (2022). *World Cities Report 2022: Envisaging the Future of Cities*. UN Habitat. Retrieved April 3, 2023, from <https://unhabitat.org/wcr/>
- Harrington, L. H. (2016). Sustainability Theory and Conceptual Considerations: A Review of Key Ideas for Sustainability, and the Rural Context. *Papers in Applied Geography*, 2(4), 365–382. <https://doi.org/10.1080/23754931.2016.1239222>
- Hilty, L. M., & Aebischer, B. (2014). *ICT Innovations for Sustainability* (Vol. 320). Springer. <https://doi.org/10.1007/978-3-319-09228-7>
- Höjer, M., & Wangel, J. (2015). Smart Sustainable Cities: Definition and Challenges. In *ICT Innovations for Sustainability* (Vol. 320, pp. 333–349). Springer International Publishing Switzerland 2015. https://link.springer.com/chapter/10.1007/978-3-319-09228-7_20
- Holland, L. (2004). Diversity and connections in community gardens: a contribution to local sustainability. *Local Environment*, 9(3), 285–305. <https://doi.org/10.1080/1354983042000219388>
- Holly, C. (2013). Qualitative Descriptive Research. In *Scholarly Inquiry and the DNP Capstone* (1st ed.). Springer Publishing Company. <https://connect.springerpub.com/content/book/978-0-8261-9388-9/part/part02/chapter/ch05>

- Hui, S. C. M. (2011). Green roof urban farming for buildings in high-density urban cities. In *University of Hong Kong*. Retrieved April 3, 2023, from <https://hub.hku.hk/bitstream/10722/140388/1/Content.pdf>
- Huovila, A., Bosch, P., & Airaksinen, M. (2019). Comparative analysis of standardized indicators for Smart sustainable cities: What indicators and standards to use and when? *Cities*, 89, 141–153. <https://doi.org/10.1016/j.cities.2019.01.029>
- Jabareen, Y. (2006). Sustainable Urban Forms: Their Typologies, Models, and Concepts. *Journal of Planning Education and Research*, 26(1), 38–52. <https://doi.org/10.1177/0739456X05285119>
- James, P., Astoria, R., Castor, T., Hudspeth, C., Olstinske, D., & Ward, J. (2021). Smart Cities: Fundamental Concepts. In *Handbook of Smart Cities* (pp. 3–35). Springer Nature Switzerland AG. <https://doi.org/10.1007/978-3-030-69698-6>
- Jensen, L. (Ed.). (2022). *The Sustainable Development Goals Report 2022*. United Nations. <https://unstats.un.org/sdgs/report/2022/The-Sustainable-Development-Goals-Report-2022.pdf>
- Klok, P. J. (2023, March 22). *Case studies*. Methodology Workshop, Enschede, University of Twente, Netherlands.
- Kohon, J. N. (2018). Social inclusion in the sustainable neighborhood? Idealism of urban social sustainability theory complicated by realities of community planning practice. *City, Culture and Society*, 15, 14–22. <https://www.sciencedirect.com/science/article/abs/pii/S1877916617300437>
- Kurtz, H. E. (2001). DIFFERENTIATING MULTIPLE MEANINGS OF GARDEN AND COMMUNITY. *Urban Geography*, 22(7), 656–670. <https://doi.org/10.2747/0272-3638.22.7.656>
- Kyaw, T. Y., & Ng, A. Y. (2017). Smart Aquaponics System for Urban Farming. *Energy Procedia*, 143, 342–347. <https://www.sciencedirect.com/science/article/pii/S1876610217364585>
- Lee, S., & Yoo, C. (2016). Neighborhood Built Environments Affecting Social Capital and Social Sustainability in Seoul, Korea. *Sustainability*, 8(12), 1346. <https://doi.org/10.3390/su8121346>
- Ly, A. M., & Cope, M. R. (2023). New Conceptual Model of Social Sustainability: Review from Past Concepts and Ideas. *International Journal of Environmental Research and Public Health*, 20(7). <https://doi.org/10.3390/ijerph20075350>
- Magis, K., & Shinn, C. W. (2009). Emergent Principles of Social Sustainability. *Understanding the Social Dimension of Sustainability*, 15–44. <https://www.taylorfrancis.com/chapters/edit/10.4324/9780203892978-10/emergent-principles-social-sustainability-kristen-magis-craig-shinn>
- Marsal-Llacuna, M. (2016). City Indicators on Social Sustainability as Standardization Technologies for Smarter (Citizen-Centered) Governance of Cities. *Social Indicators Research*, 128(3), 1193–1216. <https://doi.org/10.1007/s11205-015-1075-6>
- McCombes, S. (2022, October 10). *Descriptive Research | Definition, Types, Methods & Examples*. Scribbr. Retrieved June 19, 2023, from <https://www.scribbr.com/methodology/descriptive-research/>
- McCombes, S. (2023, January 30). *What Is a Case Study?: Definition, Examples & Methods*. Scribbr. Retrieved June 20, 2023, from <https://www.scribbr.com/methodology/case-study/>
- Monday, T. (2020). Impacts of Interviews as Research Instrument of Data Collection in Social Sciences. *Journal of Digital Art & Humanities*, 1. https://www.researchgate.net/publication/346153902_Impacts_of_Interview_as_Research_Instrument_of_Data_Collection_in_Social_Sciences

- Müller, C. (2011). *Urban Gardening: Über die Rückkehr der Gärten in die Stadt* (4th ed.). oekom.
<https://doi.org/10.14512/9783865816139>
- Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, 19(2), 129–132. <https://doi.org/10.1177/1362168815572747>
- Neirotti, P., De Marco, A., Cagliano, A. C., Mangano, G., & Scorrano, F. (2014). Current trends in Smart City initiatives: Some stylised facts. *Cities*, 38, 25–36.
<https://doi.org/10.1016/j.cities.2013.12.010>
- Nicola, S., Ferrante, A., Cocetta, G., Bulgari, R., Nicoletto, C., Sambo, P., & Ertani, A. (2020). Food Supply and Urban Gardening in the Time of Covid-19. *Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca: Horticulture*, 77(2), 141.
<https://doi.org/10.15835/buasvmcn-hort:2020.0051>
- Oldenburg, R. (2001). *Celebrating the third place : inspiring stories about the “great good places” at the heart of our communities*. <https://ci.nii.ac.jp/ncid/BA54752127>
- Orsini, F., Kahane, R., Nono-Womdim, R., & Gianquinto, G. (2013). Urban agriculture in the developing world: a review. *Agronomy for Sustainable Development*, 33(4), 695–720.
<https://doi.org/10.1007/s13593-013-0143-z>
- Polese, M., & Stren, R. (1997). Understanding the new sociocultural dynamics of cities: Comparative urban policy in a global context. In M. Polese & R. Stren (Eds.), *The Social Sustainability of Cities: Diversity and the Management of Change* (pp. 13–38). University of Toronto Press.
<https://www.jstor.org/stable/10.3138/9781442682399>
- Rocak, M., Hospers, G. J., & Reverda, N. (2016). Searching for Social Sustainability: The Case of the Shrinking City of Heerlen, The Netherlands. *Sustainability*, 8(4), 382.
<https://doi.org/10.3390/su8040382>
- Sachs, I. (1999). Social sustainability and whole development: Exploring the dimensions of sustainable development. In E. Becker & T. Jahn (Eds.), *Sustainability and the Social Sciences* (pp. 25–36). Zed Books.
https://www.researchgate.net/publication/323062558_Sustainability_And_The_Social_Sciences_A_Cross-Disciplinary_Approach_To_Integrating_Environmental_Considerations_Into_Theoretical_Reorientation_Edited_by_Egon_Becker_and_Thomas_Jahn_London_and_New_Yor
- Samih, H. (2019). Smart cities and internet of things. *Journal of Information Technology Case and Application Research*, 21(1), 3–12. <https://doi.org/10.1080/15228053.2019.1587572>
- Shirazi, M. R., & Keivani, R. (2016). Social sustainability discourse: A critical revisit. In *Urban Social Sustainability - Theory, Policy and Practice* (pp. 1–26). Routledge.
https://www.researchgate.net/publication/331222986_Urban_Social_Sustainability_Theory_Policy_and_Practice#pf6
- Söderholm, P. (2020). The green economy transition: the challenges of technological change for sustainability. *Sustainable Earth*, 3(1).
<https://sustainableearthreviews.biomedcentral.com/articles/10.1186/s42055-020-00029-y>
- Stern, M. J. (2018). *Social Science Theory for Environmental Sustainability: A Practical Guide*. Oxford University Press.
https://books.google.pl/books?hl=en&lr=&id=22hiDwAAQBAJ&oi=fnd&pg=PP1&dq=Environmental+Sustainability+Theory&ots=isNihqujL3&sig=33z5iy4cQjPLXSeW0aenF9xt19w&redir_esc=y#v=onepage&q=Environmental%20Sustainability%20Theory&f=false

- United Nations. (n.d.). *THE 17 GOALS | Sustainable Development*. United Nations Department of Economic and Social Affairs. Retrieved June 16, 2023, from <https://sdgs.un.org/goals>
- United Nations. (2015). *Sustainable Development Goals*. Global Compact Network Germany. <https://www.globalcompact.de/en/our-work/sustainable-development-goals>
- United Nations. (2023, April 18). *Goal 11: Sustainable cities and communities - The Global Goals*. The Global Goals. Retrieved June 14, 2023, from <https://www.globalgoals.org/goals/11-sustainable-cities-and-communities/>
- United Nations Department of Economic and Social Affairs. (n.d.). *Sustainable cities and human settlements*. United Nations. Retrieved June 15, 2023, from <https://sdgs.un.org/topics/sustainable-cities-and-human-settlements>
- Widok, A. H. (2009). Social Sustainability: Theories, Concepts, Practicability. *EnviroInfo*, 43–51. <http://enviroinfo.eu/sites/default/files/pdfs/vol122/0043.pdf>
- Williams, K. M. (2009). Sustainable cities: research and practice challenges. *International Journal of Urban Sustainable Development*, 1(1–2), 128–132. <https://doi.org/10.1080/19463131003654863>
- World Commission on Environment and Development. (1987). *Our Common Future* (1st ed.). Oxford University Press.
- Yigitcanlar, T., Kamruzzaman, M., Foth, M., Sabatini-Marques, J., Da Costa, E. P., & Ioppolo, G. (2019). Can cities become smart without being sustainable? A systematic review of the literature. *Sustainable Cities and Society*, 45, 348–365. <https://doi.org/10.1016/j.scs.2018.11.033>
- Yin, C., Xiong, Z., Chen, H. S., Wang, J., Cooper, D., & David, B. (2015). A literature survey on smart cities. *Science China Information Sciences*, 58(10), 1–18. <https://doi.org/10.1007/s11432-015-5397-4>
- Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). SAGE Publications. <https://www.pdfdrive.com/case-study-research-and-applications-design-and-methods-e183933688.html>
- Yusoff, N. H., Hussain, M. Y., & Tukiman, I. (2017). ROLES OF COMMUNITY TOWARDS URBAN FARMING ACTIVITIES. *PLANNING MALAYSIA JOURNAL*, 15(1). <http://planningmalaysia.org/index.php/pmj/article/download/243/223>

List of figures

Figure 1 - Cohen, B. (2012). *The Smart City Wheel by Boyd Cohen*. ResearchGate.

https://www.researchgate.net/publication/317269039_FINEST_Twins_platform_for_cross-border_smart_city_solutions#pf4

Figure 2 - United Nations. (2015). *Sustainable Development Goals*. Global Compact Network Germany.

<https://www.globalcompact.de/en/our-work/sustainable-development-goals>

Figure 3 - Schäfer, V. I. (2023). Evaluation wheel for smart sustainable projects.

Figure 4 - Beckers, S. (2019). Aquaponics: a positive impact circular economy approach TO feeding cities. *Field Actions Science Reports*, 20, 78–84.

<https://journals.openedition.org/factsreports/5757#tocto2n3>

Figure 5 - Beckers, S. (2019). Aquaponics: a positive impact circular economy approach TO feeding cities. *Field Actions Science Reports*, 20, 78–84.

<https://journals.openedition.org/factsreports/5757#tocto2n3>

Appendix - Coding Tables

Coding table SQ1 - “Technology”

Table 1: Final coding for SQ1 - In which way does technology, integrated in the BIGH Brussels Aquaponic Farm, contribute to the farm’s smart sustainability?

| Coding Category | Definition | Criteria (Characteristics) |
|------------------------|---|---|
| Innovation | “The introduction of new ideas, methods, or things.” (Collins & COBUILD, 2018: 791) | Rooftop greenhouse, Aquaponic System, indoor tank-based system, building-integrated agriculture, etc. |
| Structure | “The way in which something is made, built, or organized.” (Collins & COBUILD, 2018: 1496) | Fish farm, rooftop greenhouse, rooftop garden, etc. |
| Integration | “The act of combining or adding parts to make a unified whole.” (Dictionary.com, 2023c) | Potential for collaboration between different systems |
| Processes | “A series of actions which are carried out in order to achieve a particular result.” (Collins & COBUILD, 2018: 1189) | Filtration process, water collection, adding nutrients, etc. |
| Monitoring | “Regular checks on a development or progress.” (Collins & COBUILD, 2018: 971) | Temperature, CO ₂ , etc. |
| Location | “The place where something happens or is situated.” (Collins & COBUILD, 2018: 891) | Roof, rooftop, ceiling, inside, outside, distance to other facilities, etc. |
| Automation | “A technique, method, or system of operating or controlling a process by highly automatic means.” (Dictionary.com, 2023a) | Automatic system to control temperature, etc. |
| Equipment | “Consists of the items which are provided and used for a particular purpose.” (Collins & COBUILD, 2018: 510) | Cherry pickers, rolling seats on tracks, LED lights, etc. |
| Circularity | “The state or quality of moving or occurring in a cycle.” (Dictionary.com, 2023b) | Fish water as plant fertilizer, etc. |

Coding table SQ2 - “Sustainable Practices”

Table 2: Final coding for SQ2 - In which way do sustainable practices of the BIGH Brussels Aquaponic Farm contribute to solving environmental and sustainability challenges?

| Coding Category | Definition | Criteria (Characteristics) |
|------------------------|--|--|
| Integration | “To become part of a group and be accepted into it.” (Collins & COBUILD, 2018: 799) | Integration with existing city structures; integration with existing building structures; integration on the roof; Integration with existing policies on the regional, national, and international level; Integration of the products at stores and businesses |
| Circularity | “The state or quality of moving or occurring in a cycle.” (Dictionary.com, 2023b) | Reuse and sources of water, heating, cooling, energy; pumping |
| Distribution | “The distribution of something is how much of it there is at each place or at each time.” (Collins & COBUILD, 2018: 438) | Distribution chain |
| Locality | “Services are controlled and provided, or goods produced and bought, within a local area for the benefit of people in that area.” (Collins & COBUILD, 2018: 891) | Local distribution, local partnerships, local products |
| Green Energy | “The power that comes from sources that do not harm the environment and are always available such as wind and sunlight.” (Collins & COBUILD, 2018: 674) | Generation, efficiency, electricity, renewable, security |
| Availability | “You can find or obtain something you want or need.” (Collins & COBUILD, 2018: 91) | Accessible products |
| Benefits | “The help that you get from something or the advantage that something results.” (Collins & COBUILD, 2018: 131) | Pollution, carbon emissions, GHG, etc. |
| Viability | “Something that is capable of doing what it is intended to for a long period of time” (Collins & COBUILD, 2018: 1681) | Economic viability, costs, etc. |
| Products | “Something that is produced and sold in | Plants, herbs, fish, vegetables, |

| | | |
|-----------|---|--|
| | large quantities, often a result of a manufacturing process.” (Collins & COBUILD, 2018: 1190) | berries |
| Materials | “A solid substance” (Collins & COBUILD, 2018: 931) | Sustainable materials for the packaging, in the farm’s structure, etc. |

Coding table SQ3 - “Local People”

Table 3: Final coding for SQ3 - To what extent are local people integrated at the BIGH Brussels Aquaponic Farm to foster community engagement, the quality of life, and social inclusion?

| Coding Category | Definition | Criteria (Characteristics) |
|------------------------|--|---|
| Quality | “Someone’s or something's good or bad qualities.” (Collins & COBUILD, 2018: 1219) | Products, events, quality measures and processes, chemicals, antibiotics, feed of the salmon trout, national hygiene and safety standards |
| Health | “The condition of something and the extent to which it is free from illness. ” (Collins & COBUILD, 2018: 710) | Mental, physically, health of the fish, health of the plants, quality air |
| Happiness | “Feelings of pleasure, usually because something nice has happened or because someone feels satisfied with their life.” (Collins & COBUILD, 2018: 699) | Locals, employees, visitors, fun |
| Events | “A planned and organized occasion.” (Collins & COBUILD, 2018: 518) | Community events, business events, team building activities, educational events |
| Culture | “Culture consists of activities such as the arts and philosophy, which are considered to be important for the development of civilization and of people’s minds.” (Collins & COBUILD, 2018: 364) | Arts, music, food, lifestyle |
| Community | “Community is friendship between different people or groups, and a sense of having something in common.” (Collins & COBUILD, 2018: 294) | Community building events, being heard through different channels, interactions |

| | | |
|---------------------------|---|---|
| Accessibility | “Something is easy to use, reach, obtain, or get into it” (Collins & COBUILD, 2018: 8) | Access to information, events, the farm’s location and structure; Access to local products |
| Collaboration | “The act of working together to produce a piece of work.” (Collins & COBUILD, 2018: 279) | With local and international businesses, experts, institutions, educational institutions |
| Participation | “To take part in an activity.” (Collins & COBUILD, 2018: 1093) | Different possibilities for locals and visitors to participate in the farm’s activities, participation in the sustainability discourse, feedback mechanisms |
| Diversity and Inclusivity | “The diversity of something is the fact that it contains many very different elements.” (Collins & COBUILD, 2018: 439) “A group or organization that allows all kinds of people to belong to it.” (Collins & COBUILD, 2018: 776) | Diversity of products, dishes and food options, cultural backgrounds, socio-economic backgrounds, educational backgrounds, linguistic backgrounds |
| Equality | “The same status, rights, and responsibilities for all the members of a society, group, or family.” (Collins & COBUILD, 2018: 509) | Gender equality |
| Work | “To have a job, usually one that is paid for.” (Collins & COBUILD, 2018: 1738) | Creation of jobs |
| Awareness | “If you are aware of something, you know about it.” (Collins & COBUILD, 2018: 93) | Awareness for sustainable practices, circularity, and aquaponics |
| Education | “Education of a particular kind involves teaching the public about a particular issue.” (Collins & COBUILD, 2018: 480) | educational programs, events, and exchange; Educational information on the website and social media channels |

Data Appendix 1 - Fieldwork Observation Protocol

For the original fieldwork observation protocol see the separately uploaded data appendix.

Appendix 2 - Interview with Steven Beckers conducted by hub.brussels

hub.brussels, & Beckers, S. (2021, September 22). *BIGH: Brussels' aquaponics is conquering Europe*. Hub.Brussels. Retrieved June 27, 2023, from <https://hub.brussels/en/blog/bigh-brussels-aquaponics-is-conquering-europe/>

Data Appendix 3 - Scientific articles and literature and policy documents

- be.brussels. (2018). GEWESTELIJK PLAN VOOR DUURZAME ONTWIKKELING: GPDO. In *Perspective.Brussels*. The Brussels Government.
- Beckers, S. (2019). Aquaponics: a positive impact circular economy approach TO feeding cities. *Field Actions Science Reports*, 20, 78–84. <https://journals.openedition.org/factsreports/5757#tocto2n3>
- BIGH, Brussels Aquaponic Farm. (2022). *Home - BIGH | Brussels Aquaponic Farm - Ferme aquaponique sur les toits de Bruxelles*. BIGH Brussels Aquaponic Farm. Retrieved June 20, 2023, from <https://bigh.farm/>
- BIGH Brussels Aquaponic Farm. (2023). *Product Catalogue 2023*. Canva. Retrieved June 24, 2023, from https://www.canva.com/design/DAFdLXtUVrE/ATkB_cr0s3jCHDZJrXUYlg/view?utm_content=DAFdLXtUVrE&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink#1
- Diver, S. (2006). Aquaponics-Integration of hydroponics with aquaculture. *National Sustainable Agriculture Information Service*.
- ECF. (n.d.). *AQUAPONICS*. ECF Farmsystems GmbH. Retrieved June 23, 2023, from <https://www.ecf-farmsystems.com/aquaponik?lang=en>
- European Commission. (2022, December 5). *The Commission approves the CAP Strategic Plans of Belgium*. Retrieved June 24, 2023, from https://agriculture.ec.europa.eu/news/commission-approves-cap-strategic-plans-belgium-2022-12-05_en
- European Commission. (2023, June 8). *Biodiversity strategy for 2030*. Retrieved June 24, 2023, from https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en
- Fremault, C. (2015). GOOD FOOD STRATEGY: TOWARDS A SUSTAINABLE FOOD SYSTEM IN THE BRUSSELS-CAPITAL REGION. In *Bruxelles Environnement*. Bruxelles Environnement.
- Gielen, D., Boshell, F., Saygin, D., Bazilian, M., Wagner, N. L., & Gorini, R. (2019). The role of renewable energy in the global energy transformation. *Energy Strategy Reviews*, 24, 38–50. <https://doi.org/10.1016/j.esr.2019.01.006>
- Goddek, S., Sauvage, J., Kotzen, B., & Burnell, G. (2019). Aquaponics Food Production Systems: Combined Aquaculture and Hydroponic Production Technologies for the Future. In *Springer eBooks*. Springer. <https://doi.org/10.1007/978-3-030-15943-6>

- Proksch, G., Ianchenko, A., & Kotzen, B. (2019). Aquaponics in the Built Environment. In S. Goddek, A. Joyce, B. Kotzen, & G. M. Burnell (Eds.), *Aquaponics Food Production Systems* (pp. 523–560). SpringerOpen. <https://link.springer.com/book/10.1007/978-3-030-15943-6>
- Rodrigues Do Amaral, A. (2018). BIGH: a case of an urban aquaponics farm in the metropolis centre. *U.PORTO*.
- Sanjuan-Delmás, D., Llorach-Massana, P., Nadal, A., Ercilla-Montserrat, M., Muñoz, P., Montero, J. M. M., Josa, A., Gabarrell, X., & Rieradevall, J. (2018). Environmental assessment of an integrated rooftop greenhouse for food production in cities. *Journal of Cleaner Production*, *177*, 326–337. <https://doi.org/10.1016/j.jclepro.2017.12.147>
- Summerfelt, S. T. (1996). Engineering Design of Water Reuse System. In R. Summerfelt (Ed.), *Walleye Culture Manual* (pp. 277–309). Central Regional Aquaculture Center Publication Center. https://www.researchgate.net/publication/280566363_Engineering_design_of_a_water_reuse_system
- Zhang, S., Li, G., Wu, H., Liu, X., Yao, Y., Tao, L., & Liu, H. (2011). An integrated recirculating aquaculture system (RAS) for land-based fish farming: The effects on water quality and fish production. *Aquacultural Engineering*, *45*(3), 93–102. <https://www.sciencedirect.com/science/article/pii/S0144860911000471>

Data Appendix 4 - List of the analyzed Social Media posts

TikTok

- @bighfarmingbrussels. (2020a, May 15). *A day at BIGH, an urbanfarm on a rooftop in the middle of Brussels* 🍷🍅🌱🐟💚 #belgium #brussels #rooftop #farming #fyp #foryoupage. TikTok. Retrieved June 27, 2023, from https://www.tiktok.com/@bighfarmingbrussels/video/6826977398064516358?is_from_webapp=1&sender_device=pc&web_id=7249255637664679450
- @bighfarmingbrussels. (2020b, May 17). *A day at the farm part 2* 🌱🍅 #fyp #foryoupage #belgium #brussels #rooftop #farming #sustainable. TikTok. Retrieved June 27, 2023, from https://www.tiktok.com/@bighfarmingbrussels/video/6827866731852107013?is_from_webapp=1&sender_device=pc&web_id=7249255637664679450
- @bighfarmingbrussels. (2020c, May 24). *Taking care of our tomatoes* 🍅 More info on the website! BIGH BRUSSELS 💚 #foryoupage #belgium #farming #aquaponics #local #food #sustainable #fyp. TikTok. Retrieved June 27, 2023, from https://www.tiktok.com/@bighfarmingbrussels/video/6830317811252923653?is_from_webapp=1&sender_device=pc&web_id=7249255637664679450
- @bighfarmingbrussels. (2020d, June 6). *This is all happening on the rooftop of our urban farm in Brussels* ❤️ #brussels #belgium #fyp #urbanfarming #bigh #fyp. TikTok. Retrieved June 27, 2023, from https://www.tiktok.com/@bighfarmingbrussels/video/6835252240157052166?is_from_webapp=1&sender_device=pc&web_id=7249255637664679450

Instagram Highlights

- @bighfarming. (2019-2022). *Discover BIGH*. Instagram Highlights. Retrieved June 27, 2023, from <https://www.instagram.com/stories/highlights/17902139240084567/> (consists of 13 Highlights in total)
- @bighfarming. (2020-2022a). *Day at BIGH*. Instagram Highlights. Retrieved June 27, 2023, from <https://www.instagram.com/stories/highlights/18106589179189058/> (consists of 15 Highlights in total)
- @bighfarming. (2020-2022b). *Events & Visits*. Instagram Highlights. Retrieved June 27, 2023, from <https://www.instagram.com/stories/highlights/17926157047732546/> (consists of 35 Highlights in total)
- @bighfarming. (2020-2022c). *Shootings*. Instagram Highlights. Retrieved June 27, 2023, from <https://www.instagram.com/stories/highlights/17866423435963911/> (consists of 23 Highlights in total)
- @bighfarming. (2021-2022a). *Brussels Trout*. Instagram Highlights. Retrieved June 27, 2023, from <https://www.instagram.com/stories/highlights/17900758754275840/> (consists of 31 Highlights in total)
- @bighfarming. (2021-2022b). *Products*. Instagram Highlights. Retrieved June 27, 2023, from <https://www.instagram.com/stories/highlights/17881375453591729/> (consists of 24 Highlights in total)
- @bighfarming. (2023). *BIGH open air*. Instagram Highlights. Retrieved June 27, 2023, from <https://www.instagram.com/stories/highlights/17988568855991559/> (consists of 1 Highlights in total)

Instagram Posts

- @bighfarming. (2020a, February 4). *It's about that time!! [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/B8JanEPAz50/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3YWw==
- @bighfarming. (2020b, March 18). *What are you doing during this sunny day? [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/B94cCzrg2YD/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3YWw==
- @bighfarming. (2020c, March 20). *Are you already familiar with the local products from our shop? [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/B99rnbYgTvH/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3YWw==
- @bighfarming. (2020d, March 22). *At BIGH, we understand the increasing importance of having a reliable and local food production, especially in times of crisis. [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/B-CULcSgg_4/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3YWw==
- @bighfarming. (2020e, March 27). *The sun has already done its job in the greenhouse ! [. . .]*. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/B-PFS2jgc1J/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020f, April 22). *Have a look with us in BIGH's conservatory.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/B_SLWDMgtgj/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020g, May 6). *till looking for a unique Mother's Day gift?* 🎁 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/B_1rgGdg6Ao/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020h, May 27). *Hello little olive trees* 🙌🌿 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CAsMGcngYnp/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020i, July 15). *We are participating in this exclusive @carrefourbelgium project: « La Tournée Locale »!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CCqjvfpAu2T/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020j, July 20). *Come visit our urban farm from Tuesday to Friday!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CC3dKmKgSOj/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020k, July 21). *Made in Belgium!* 🌿🌿🌿 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CC5p3TKgJ1-/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020l, July 22). *Hey! It was national day 🇧🇪 Have you tried our cherry tomatoes?* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CC8gXKYATw1/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020m, July 24). *When you say "visit", you say "tasting"!* 🍷 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CDBWPkyAvaq/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020n, July 27). *Today we asked some of the staff how they started their week at Bigh. . .* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CDJfnp2AxVz/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020o, July 30). *Today, Ed, who did a 6-month internship, introduces us to his life on the farm* 🌿🍅🍅 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CDRDyqVgRiD/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020p, August 3). *Our plants are growing well and they're waiting for you* 🌿🌿🌿 [. . .]. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CDbBTtCg9nH/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020q, August 5). *Would you like to take a tour of our urban aquaponic farm? [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CDglgjJgdpn/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020r, August 7). *Hello BIGH's family! 🌱🌻 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CDlpdkngc79/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020s, August 11). *potted this morning 🐞, a bumblebee 🐝 working in the vegetable garden. [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CDvqKCPg5p2/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020t, August 12). *What's new? 🌸 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CDyeSbHA0AQ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020u, August 14). *If you didn't know it yet, you can organize your events with us! 🙌 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CD3mh0TgZqz/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020v, August 18). *Harvesting tomatoes for your orders 🍅 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CEBqWP0AYwn/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020w, August 20). *Hello BIGH family 🙌 Great news! [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CEGybt_g0PL/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020x, August 21). *Yes, it's the weekend 😊 What have you planned? [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CEJeA34gL9g/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020y, August 25). *📸 Clara, one of our interns, harvesting tomatoes 🍅 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CEUCoJLAHVx/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020z, August 27). *t's always a good time to learn about food alternative system! [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CEZHNJ5AJE0/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020aa, August 28). *The greenest sky view of Brussels 🇧🇪 🌿 🏡 [. . .].* Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CEbyiG0g3Os/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ab, September 4). *Friday means preparing the last orders before the weekend* 🍅 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CEtwYs9A6P2/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ac, September 7). *~ Every day is a good day to be on the farm ~* 🧑🌾🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CE1cfmRATr/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ad, September 9). *All packed and ready to bring home* 🍅🍅🌱🌿🌻 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CE6SPVXAF6A/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ae, September 11). *Orders for @toogoodtogo.be, come see what's in the bag!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CE_s-FKg2JC/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020af, September 14). *Last week @asf2.0 came to visit our urban farm and took some pictures* 🤗📷 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CFHu04Ngnkv/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ag, September 17). *Hello BIGH family 🙌 Tuesday, we were @laruchequiditoui.ixelleseeu!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CFPfmckBL-R/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ah, September 21). *Hello Bigh family 🙌* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CFZIEThgrKb/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ai, September 23). *ou can never have enough basil in your kitchen 🌿 What do you cook with it?* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CFe3peXAUew/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020aj, September 28). *t's pumpkin season 🎃🤗* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CFrnX_4AM1R/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ak, September 29). *Always taking care of our plants* 🤗🌱🌿🌿🌿 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CFuFEefAy5G/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020al, October 1). *Stock up on vitamins* 🍅🍅🌱 [. . .]. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CFzADWAAaRX/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020am, October 13). *A new installation has been installed in our company!* ✅ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CGR8s5tgesW/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020an, October 15). *#plants #basil #herbs #tomatoes #plants #green #ecofriendly* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CGW8I8dgaP/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ao, October 16). *Happy #worldfoodday* 🍌🍅🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CGaA5pQgAwU/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ap, October 20). *Sky view* 👁️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CGC0_Ung-f4/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020aq, October 21). *Growing fast* 🌱🍌 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CGm8fh9AMLb/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ar, October 23). 🍌🍌 *thank you all @toogoodtogo.be* . [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CGrno3ngY8l/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020as, October 26). *#plants #basil #herbs #tomatoes #plants #green #ecofriendly* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CG0AcjEgTdB/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020at, October 28). *Sad news* . . . 😞 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CG5BiZqAM8Y/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020au, October 30). *eam picture of 2020: masks and good mood* 🍌🌱 #covid [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CG9qKVqhpBs/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020av, November 9). *Great news* 🍌🍌 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CHXh6m5AmIQ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020aw, November 12). 🍌 *The tomato season is over?* 🍌 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CHffCu9ArkO/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2020ax, November 13). 🥳 *BREAKING NEWS* 🥳 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CHh8i8ngJ_N/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ay, November 17). *This plant 🌿 is sustainable, local and circular♻️* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CHsVASyAX05/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020az, November 18). *#brussels #tomatoes #production #greenhouses* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CHuazCjA_Us/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020ba, November 20). *What's for dinner tonight? 😊* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CH0MXJZA6rv/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020bb, November 23). *oday we would like to introduce a new member of the team: Barbara, our events manager 🎉* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CH71is0ADQB/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020bc, November 25). *A thyme infusion? 🌿🍵🌲* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CIA9dHvAzL5/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020bd, November 27). *#brussels #tomatoes #production #greenhouses* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CIGKs_cA4Np/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020be, November 30). 🥳 *WE ARE RE-OPENING* 🥳 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CIOJiqDBFvm/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020bf, December 2). *CONTEST 🇩🇪* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CITH6C1hj3c/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020bg, December 7). *It's almost the end of the tomato season @bighfarming 🍅😞* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CIgBDCOh_dq/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020bh, December 16). 🌟 *Preparation of pesto from our surplus basil production!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CI3fGnuhn9E/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2020bi, December 17). 🌲🎁 *CHRISTMAS CONTEST* 🌲🎁 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CI5oSO3hQKX/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020bj, December 23). 🌱 *Have you tested our new transformed products made from our surplus production?* 🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CJJGNSyBmio/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2020bk, December 24). 🌲 *Merry Christmas* 🌲🥰 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CJL3HFqB6wr/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021a, January 4). 🙌 *Meet Gwenn: our agricultural engineer specialized in sustainability economics* ♻️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CJznzfMhSzB/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021b, January 6). *Try our Brussels Ketchutney made from our surplus tomatoes production* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CJtSoibhpe1/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021c, January 8). 😊 *WE ARE OPEN* 😊 *Good news, you wanted to come and visit the farm but couldn't?* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CJyMLO2Bgrh/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021d, January 12). *#brussels #tomatoes #production #greenhouses* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CJ9Pa-ohblh/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021e, January 18). *We combine the tomatoes and peppers into a delicious salsa dip.* [. . .]. Retrieved June 27, 2023, from https://www.instagram.com/p/CKMOnRPhiaI/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021f, January 21). *Have you tried our pesto yet?* 🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CKTusl6hXd5/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021g, January 25). 🙌 *Today we present you our sales & marketing manager: Jens!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CKd3iWohXL4/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021h, February 1). *Hello Bigh family* 🙌 *Our vegetable greenhouse is ready to welcome new plants again* 🥰🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CKwWYfGha74/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2021i, February 3). *We are super happy 🥰 Our new plants for our vegetable greenhouse have arrived and are already well installed 🌱🍅🍆🍆* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CK1Y14YBgKx/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021j, February 8). *Nothing planned yet during the Carnival holidays 🇧🇪🎡? [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CLCN6ZIBaoh/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021k, February 16). *Waiting for the tomato season 🍅🍆* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CLWCKK9AxV4/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021l, February 19). *Did you know BIGH is extremely camera-friendly? [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CLes-EdBA92/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021m, February 22). 🙌 *Today we introduce you to Julia* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CLmRIyKheuY/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021n, February 24). *Growing fast 🥰🌞🌱* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CLrTt51BoOF/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021o, February 26). *#brussels #production #greenhouses #sustainable #healthy #green #environment* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CLwrDFxhG5I/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021p, March 1). *Taking care of our plants! 🌱🍅🍆* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CL4Sfi5hWt3/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021q, March 3). *Today, a little photographic trip in the vegetable greenhouse to see the eggplants grow 🌱🌞📷* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CL9Wd4xBkkV/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021r, March 5). *Who wants some bell peppers? 🍆* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CMCqzc0hDj2/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021s, March 8). *Today we commemorate international women's day!* [. . .]. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CMKYnGdA98Q/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021t, March 10). *Apero time* 🌿🍅🍆 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CMpDeopgVd5/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021u, March 12). *Psssst, BIGH is now part of the selection of unusual visits of visit.brussels.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CMUtof8BezU/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021v, March 15). 🙌 *Did you know that we have bumblebees 🐝 in our greenhouses?* 🍆🍅🍆🌿 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CMcOQjuh87T/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021w, March 17). 😬 *We're keeping our secret safe until we get everything in place to announce it to you.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CMhdY_0Bbc7/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021x, March 19). *It looks like our vegetables are almost ready 🥰, who's looking forward for it?* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CMmpQ-7hQZR/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021y, March 22). *Happy monday* ☀️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CMubKUKBfBC/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021z, March 24). 😬 *Last week we revealed our new #rebranding colors!* 🌈 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CMzvac0B2ec/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021aa, March 26). *Do you want to visit our farm in a Covid-friendly way?* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CM40d6VhDr2/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ab, March 27). *Rejoignez-nous ce soir à 18h30 pour un livestream portant sur l'agriculture urbaine.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CM7HDicBWF1/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ac, March 29). *Have we introduced our fish already?* 🐟📹 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNASaEKBLLm/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ad, March 29). *Psssst, we have a #surprise for you!* 🤫🍷 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNCrtYRhUbl/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2021ae, March 31). *Today is Wednesday!* 🥳 *And we're still revealing our #rebranding!* 🌈 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNFhRWdBqhR/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021af, April 2). *This Friday our 3 guides (FR, EN and NL) welcomed small groups of visitors in strict compliance with the new health regulations.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNKtWx5hnBs/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ag, April 6). 🌱. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNU8745h3cM/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ah, April 7). *This is it, D-Day!* 🥳 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNXoHzKh4U0/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ai, April 9). *Easter break at BIGH started very well with Chloé and Barbara explaining some aquaponic basics to local kids!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNctQJ-hOPz/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021aj, April 12). 🙌 *Today, we present you our communication manager: Chloé!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNkah3-BwkU/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ak, April 13). *Meet our fish* 🐟🌱♻️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNm_TLwhQvM/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021al, April 14). *Our tomatoes are growing fast* 🍅 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNph7IohLb7/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021am, April 16). *Did you know we changed pots recently?* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CNuzw8QBZ9t/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021an, April 19). *The beginning of the harvest of our tomatoes* 🍅🌈🥳 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CN2c0VoBtwh/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ao, April 21). *As we told you yesterday, this year we started to produce the smallest tomatoes in the world* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CN7muejhl4/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2021ap, April 22). *Do you know what we are celebrating today?* 🎆 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CN-OYQChQ_a/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021aq, April 26). *Time for a change of scene!* 🗨️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/COIjSGuBfuG/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ar, April 29). *Recently there has been a big buzz 🗨️ around the documentary *Seaspiracy* 🌿 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/COQItJWhOnM/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021as, April 30). *The season of #festivals and crowded #evenings is not yet imminent.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/COSxquEB1iY/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021at, May 4). *Hello 🙌 This is François, our assistant manager of aquaculture 🐟🌿 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/COdDEKrhxLP/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021au, May 5). 🙌 *Today we share with you a recipe made with our eggplants: BABA GANOUSH!* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/COfry3DBZTZ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021av, May 10). 🗨️ *LOOKING FOR AN INTERN* 🗨️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/COsa3wRB-6a/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021aw, May 11). 😊 *Soon: We'll take you to discover our vegetable greenhouse 🌿🌿 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/COvCZc0Bq3j/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ax, May 17). 😊 *In total exclusivity, for the 2K subscribers stage, we decided to take you with us in the tomato greenhouse 🍅 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CO-kTGQhiA2/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ay, May 19). 🙌 *Say hello to our new #packaging!* 😄😄😄😄 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CPDqQWOBllz/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021az, May 25). *#recipe of the week: Chicken and mini peppers quiche* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CPTCMq1BG1l/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2021ba, June 1). 🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CPk-ZHABB7T/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bb, June 5). 🍷🍷🍷 In collaboration with @brusselsbeerproject [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CPv1G5Eh8wH/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bc, June 9). Breaking news 🤖🤖🤖 Now you can find our delicious trouts [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CP51kK4BO3R/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bd, June 10). 🍷🍷🍷 CONTEST 🍷🍷🍷 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CP71F6Hhkoj/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021be, June 14). Let's go to the market 🌱🍎 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CQGbsxKhJOk/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bf, June 21). Hey! Did you know? 🤔 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CQYlqcGhTIu/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bg, June 22). BIGH pizza night with our intern David! 🍕🤖 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CQbNYjWhRgO/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bh, June 29). 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CQtSmd0BTZj/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bi, June 30). Have you ever tried the world's hottest chili pepper? 🌶️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CQvwxVjhYGK/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bj, July 7). Psst, did you know that saturday 03/07 was the international day "without plastic bag"? [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CRBTTuGhniQ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bk, July 28). Have you already tried our jalapeño peppers? [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CR3cN6bBfxA/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bl, July 30). We end the week with some fancy pictures of our berries. [. . .]. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CR8ohNEgKeE/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bm, August 5). *Do you need ideas for your next dinner party? [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CSMS9W6tp6Q/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bn, August 6). *Discover our Greenhouse! 🌱 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CSOndy9gmsQ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bo, August 9). *The berry season has arrived! Here is a shot of our team during the harvest 🌿 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CSWQM5Bgf_7/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bp, August 11). *Made in Brussels! ✨ [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CSb452jt683/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bq, August 13). *Sunny Friday in Brussels means Tomato Photoshoot in our sustainable and circular urban farm!! [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CSg9nsPDH5z/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021br, August 16). *Monday is aubergine day! 🍆🍆 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CSowoTjNF5i/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bs, August 18). *Here is a sneak peek into our Herbs Greenhouse! 🌿🌿 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CSStuoRGtIcN/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bt, August 23). *From seeds, to roots, to little plants, to our beautiful herbs 🌱🌱 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CS6xL6ntYt2/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bu, August 25). *We are happy to announce that we will be one of the hosts for the Brussels Hide and Seek Music Festival. [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CS_hJRLAG3v/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bv, August 27). *Concert at your favorite Aquaponic Farm!! [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CTEoWUDAQkp/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bw, August 30). *Cheers to the Tomato Season! 🍅🌱 [. . .].* Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CTMPUXTg_3T/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bx, September 3). *Fun facts! [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CTXK5MnjecX/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021by, September 3). *Great news 🥰 🎉 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CErFk9MANhC/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021bz, September 6). *Can you spot the Bumble Bees? 🐝 🐝 🐝 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CTeg0HaN313/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ca, September 8). *Flawless 🌱 🥰 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CTjm1Q9tsoG/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cb, September 10). *omato Harvest Vibe 🍅 🕶️ [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CTorh0cNcdR/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cc, September 13). *We asked our urban farmers how to take care of basil plants at home. [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CTwzDGyqj5g/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cd, September 15). *Our new packaging is eco-friendly, recycled, recyclable and local. A perfect fit for our delicious products!! ☺ ☺ [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CT2HE45D6Vv/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ce, September 16). *Degustation time! [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CT7HUj_t6Ml/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cf, September 20). *Monday is harvest day! 🌻 🌻 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CUCgUPNAMTC/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cg, September 22). *Happy Wednesday! And Autumn Equinox 🍁 🍁 🍁 [. . .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CUII4qrtVQX/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ch, September 24). *Our wonderful aromatic herbs [. . .].* Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/reel/CUM3zP9gKHs/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ci, September 27). *Do you know the scale to measure the spiciness of peppers?* 🌶️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CUVFMgFNvR0/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cj, September 29). *Black tomatoes in town!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CUZ746Jt22s/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ck, October 1). *We are always happy to welcome you into our Rooftop Farm!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CUfOrlLNP5h/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cl, October 4). *It is the start of the week, that means lots of energy and hard work!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CUm2bEYt_Kz/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cm, October 6). *The Pepper Transition!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CUr3dEttC0X/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cn, October 8). *The life of a Pistou!!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CUxKelWDEuU/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021co, October 12). *We gathered some fun facts about eggplants 🍆 for you.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CU7uKFJN-5f/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cp, October 15). *Short shooting because the light was amazing 📸🍆* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CVDEKZxtk2H/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cq, October 16). *If you haven't tried our products yet, now is the time!* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CVGDx-6jGEb/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cr, October 19). *ids, adults, schools, businesses. . . We would love to welcome you all!* 📖 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CVNt-M5teiz/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cs, October 21). *Our yellow bell peppers 🟡 are just waiting for you to pick them up!* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CVTIjzQNEbX/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021ct, October 23). *We put our tomatoes on the spot!* 🍅 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CVXhjjkA12w/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cu, October 26). *Throwback to this sunny summerday* ☀️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CVfmFSxtIzO/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cv, October 28). *Next time you are looking for a gold place to eat, why don't you try out one (or maybe all 🤔) of the restaurants and caterers in Brussels that prepare our delicious salmon trout 🐟 in their very own creative way!* 🍷 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CVkmzhXte3U/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cw, October 31). *With the current rainy weather 🌧️ we can't stop thinking about our lost summer sun* ☀️🌧️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CVtCCizN4bS/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cx, November 3). *Here are a few pictures 📸 of our last events 🎉* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CV0FVi4t5Tn/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cy, November 4). *Meet out white eggplant* 🍆 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CV28UoOtH00/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021cz, November 8). *🌟Happy Monday🌟* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CWBGv2Oj9V2/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021da, November 12). *Thank you to @visitflanders for this interview* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CWLyS2qtrTf/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021db, November 14). *Welcome to BIGH!* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CWRGLLEjERO/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dc, November 16). *Happy tomato Tuesday* 🍅 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CWV4AWuNO1x/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2021dd, November 22). 🇧🇪 *We are looking for a sales manager* 🇧🇪 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CWIPAvQtPdp/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021de, November 24). *The one and only Brussels Salmon Trout now in fresh fillets!* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CWqN-3HNP77/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021df, November 26). *Throwback to last Friday!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CWvLoinNI-u/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dg, December 3). *TOMATO GREENHOUSE LESSON* 🌱🍅 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CXBrUC4tvlt/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dh, December 6). *As promised, you can now find our fresh fillets in even more locations!* 🔥 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CXJNr2Go7wm/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021di, December 8). *Swipe right for an explosion of colours* 🌈 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CXN7Atetj9C/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dj, December 9). *Meet Mathias, our site Manager!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CIIF-KZhHbJ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dk, December 14). *We have started producing dried thyme that you can find exclusively at @laruchequiditoui* 😊🌱🍃 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CIyGizHBrhd/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dl, December 20). *Last cherries on the vine* 😞 *Bye-bye beauties!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CXtXHNYtiNC/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dm, December 21). *The last baby Tomberries of the season!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CXwEJ3dNvCR/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dn, December 24). *Ho-ho-ho* 🍷 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CX3FdN8tQ30/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2021do, December 24). *Ho-ho-ho* 🎄 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CX3FXN6NiFZ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2021dp, December 24). *Ho-ho-ho* 🎄 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CX3FMNPNrLs/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022a, January 27). *We're getting ready for the arrival of our baby plants!* 🌱☀️😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CZPWn7gI62B/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022b, January 28). *Came in to this, this morning* 😊💜 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CZRZBKKNmus/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022c, February 4). *BABY PLANTS ARE HERE* 🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CZj6-P9DbpC/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022d, February 10). *J-6 before Valentine's Day* 😊🌿 *We're in love with our aromatic herbs!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CZzRLHDNgL0/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022e, February 11). *Venez participer au Carnaval de Folie de BIGH* 🎉 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CZ13liuIKDG/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022f, February 14). *Happy Valentine's day* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CZ9xpbfd-lZ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022g, February 15). *Looks peaceful, doesn't it?* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CaAJWQ_NJmw/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022h, February 17). *ooking for an original and atypical place to organise your events? BIGH is THE spot!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CaFZBptotpv/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022i, February 21). *Look at these mushrooms* 🍄 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CaPmDPeigs1/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022j, February 22). *At BIGH, we are happy to contribute to Research & Development whenever we have the opportunity!* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CaSD98ho7qe/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022k, February 25). *Check out the calendar  [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CaZ47mptxid/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022l, February 27). *Photo dump of the week!  [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Cae8Ps2gCUG/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022m, March 1). *We can't get enough of this gorgeous Brussels Salmon Trout  [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CakNrArNqNc/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022n, March 9). *Breaking news  Something BIGH is coming. . . [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Ca4Tv9-ASPO/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022o, March 14). *Did you say Brussels Salmon Trout Sushi?!  [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CbFj_XZtPZx/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022p, March 22). *Come spend a funny afternoon at the Brussels Aquaponics Farm with your little ones   [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CbIZu-ujqBK/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022q, March 22). *We couldn't help it. This view needed to be shared  [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CbaP7u2tK54/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022r, March 27). *Eggs, eggs and eggs again!  [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CbnZjEEA6sc/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022s, March 29). *Look at our beautiful tomatoes here at #bighfarm!  [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CbsRsVETJhR/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022t, April 7). *Check out our first insect hotel workshop!   [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CcDgHSCtpb6/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022u, April 11). *For the last two weeks we have been busy harvesting our beautiful #tomatoes here at #Bighfarming   [. . .]*. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CcNwePRtatD/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022v, April 12). *Spring is coming. . .* 🌞🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CcQLOWwNMB-/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022w, April 21). *Do you know what herb it is?* 🌿😋 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CcniXyhNJi9/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022x, April 25). *Still haven't booked your visit @BIGH??* 🤔😞 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Ccx4QbBtuux/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022y, April 27). *Look at our beautiful bees 🐝🌟 Yesterday @juan_sepulchre divided our hives into two colonies, as the original one was a full house!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Cc2ejtnNmsf/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022z, April 28).  *We are looking for interns in the Communication and the Events department!* 🌞 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Cc46o25Nogd/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022aa, May 3). *Want to know how we grow these beautiful cherry tomatoes?* 😊🍅 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CdGS3FotWM-/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ab, May 4). *Nous avons eu la chance de visiter Bigh, la première Ferme Aquaponique de Bruxelles, située sur les toits des abattoirs à Anderlecht.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CdIucSityv6/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ac, May 10). *Don't know what to do with your eggplants? Try the aubergine mini pizza!* 🔥 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CdX2UqAjbqD/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ad, May 11). *Hot stuff coming this way* 🔥 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Cdat-BjDQZ8/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ae, May 13). *Basil just wanna have sun* 🎵🌞🌱 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CdfaBKyNFY_/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2022af, May 17). *Welcome to our tomato jungle 🌿☀️ [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CdqT3YrNgiG/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ag, May 19). *Get a taste of our salmon trout @savage.restaurant ! A perfect plate to share (or not). . . 😊 ✨ [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Cdu82SONFAN/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ah, May 23). *Sea of herbs 🌊🌱 [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Cd5nxTYDhZq/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ai, May 25). *Blueberry season is just around the corner 🍷✨ [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Cd-vArbNM3m/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022aj, May 31). *Get to know our urban farm with Marine ☀️ [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CeOoSXJDr40/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ak, June 3). *Always wanted to visit us but don't have time during the week? 😞 We have the perfect solution for you! [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CeVZryItVsR/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022al, June 7). *You can now find us in the new @guides.tao 2022 ! A #sustainable, #ethical and #ecological tour guide 🌱✨ [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CegLDJFN27U/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022am, June 9). *Do you want it as much as we do ? 😊 [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CeloCyjNQ4h/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022an, June 14). *Here we are: 3000 followers! 🎉🥳 [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CeymmgZtZaS/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ao, June 21). *Have you ever been in an #urbanfarm ? Do you know what is an #aquaponic system and how does it work? 🤖🌱 [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CfEl0pQNuvC/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ap, June 28). *Last week, BIGH was nominated in the RISE category for the @hub.brussels Awards 2022. [. .].* Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CfWjdaLxXfU/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2022aq, June 30). *BBP x BIGH's Basil* 🌿🍷. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Cfb3s7gijeE/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ar, August 2). *Enjoy this amazing view of Brussels!!* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CSE1Q4bKFjC/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022as, August 30). *Back from holidays, new projects ongoing!* ✨ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Ch40qNMojN/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022at, October 14). *Need some aromatic herbs to add flavour to your favourite dish?* 🌿😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CjscDaZt_7p/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022au, October 26). *Many people have asked us where they can buy our salmon trout. So we thought we'd make a nice map for you guys.* 🐟🛒 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CkK_uYPDOVa/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022av, October 31). 🎃 *Happy halloween* 🎃 *And... beware of crazy carolina* 🐱🌶️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CkY11qyDUt9/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022aw, November 15). *RTBF VEWS parle de nous* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Ck-cbDAjZpQ/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ax, November 28). *Have you ever seen sweet potatoes of this size?* 😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/ClgUCyxIH1x/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ay, December 12). 🚨 *BREAKING NEWS* 🚨 *BIGH and @fernand_obb present* ➡️ *Ceci n'est pas un saumon* ⬅️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CmENUKJ4IG/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022az, December 20). *Did you know that in the past two decades, the Atlantic wild salmon population has been halved?* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CmZEd9ttnFP/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2022ba, December 28). *Teamwork makes the dream work* 🙌😊 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Cmt0XINpM3G/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==

- @bighfarming. (2022bb, December 30). *2022 was a wonderful year at our farm!* 🥰 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Cmy2UritJun/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023a, January 5). *It's been a month since we've launched "Ceci n'est pas un saumon" 🐟 and our smoked trout has already found it's way to many local supermarkets!* 📍 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CnChbptt7NV/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023b, January 11). *Cooking with fresh herbs gives an extra touch ✨, so we made an overview for you to see where you can get our aromatic herbs in #Brussels* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CnR_AGoNkvX/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023c, February 20). *Have you already heard about Shiso?* 🥑 [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Co44LYjoesq/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023d, February 21). *We've been glad to host our fifth training with Ghanaian students on water recirculation techniques that can be implemented in aquaculture systems in Ghana.* 💧♻️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Co7YPgYoY95/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023e, February 23). *For most people, our spicy peppers are too hot to handle, but not for @swetbxl! 🍌 This Brussels based company makes artisanal spicy sauces with the peppers from our farm.* 🌶️ [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CpAkyqSop7Z/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023f, March 8). *On this international women's right day, we are not going to make any discounts on our herbs and vegetables 🌿, nor on our salmon trout 🐟.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CpiM1UgjajN/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023g, March 13). *Concours: Grande première traiteur sur roues chez Bigh.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/Cpu-110tGoH/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023h, April 6). *A day in the life of a trout on a rooftop farm.* [. . .]. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Cqsp2eNAN_F/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023i, April 19). *Guess who's back in town?* [. . .]. Instagram. Retrieved June 27, 2023, from

- https://www.instagram.com/p/CrNknuSt0cS/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023j, May 3). *BIGH Open air 1st edition. [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CryTvstoHia/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023k, May 17). *Organise an open air without a menu? No way! [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/p/CsWT2X7orlz/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023l, May 30). *What a blast at the 1st ed. of the BIGH OPEN AIR! [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Cs3u25vtA3L/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023m, June 22). *Chilling out at the bigh open air*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/Ctwrt-9O2_3/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==
- @bighfarming. (2023n, June 22). *Welcome to our canopy. [. . .]*. Instagram. Retrieved June 27, 2023, from https://www.instagram.com/reel/CtwFXfYruY5/?utm_source=ig_web_copy_link&igshid=MTI1ZDU5ODQ3Yw==