PROGRAM OUTCOMES ON THE EVERGREEN ORGANIC FARM: AN EVALUATION OF NEARLY TWO DECADES OF THE PRACTICE OF SUSTAINABLE AGRICULTURE & THE PRACTICE OF ORGANIC FARMING PROGRAMS AT THE EVERGREEN STATE COLLEGE

by

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ABSTRACT

Program Outcomes on the Evergreen Organic Farm: An Evaluation of Nearly Two Decades of the Practice of Sustainable Agriculture and the Practice of Organic Farming Programs at The Evergreen State College

Connor Xavier Murphy

The number of farms and farmers is shrinking in the United States as growers age off the land and out of the fields. This contraction in farming opportunities has coincided with a dramatic rise in farms, gardens, and other agricultural projects on campuses throughout the country. These programs are seldom evaluated as to long-term outcomes – where do program graduates go when they leave campus? What do they take from their time involved in agricultural projects on campus and how do they apply that in their lives and careers? Following Jan Perez and colleagues at the University of California, Santa Cruz (UCSC) Center for Agroecology and Sustainable Food Systems (CASFS), this study explores impacts of The Evergreen State College's longstanding hands-on agricultural program on program participants and the impact that those participants, in turn, have made on the food system.

Results of the online survey show that of 133 respondents, 100% reported personal activities in the food system and 75% reported professional activities in the food system. Each of those held at least one paid position on a farm or garden. Respondents overwhelmingly (95%) credit their experience on the Evergreen Organic Farm with positively contributing to their sustainability activities after the program. The parallels in programs and study methods facilitate a comparison between survey results from Evergreen and UCSC, which finds similar trends but noteworthy differences between the two.

The growing popularity of on-campus agricultural projects and their attendant expenses, coupled with the decline in revenues in the modern funding landscape, necessitates an evaluation of program outcomes to help stakeholders – faculty, staff, students, and administrators – make reasoned determinations about future programs. The results suggest that PSA/POF participants who responded to this survey benefited from their experience and went on to engage the food system in a meaningful way upon program completion.

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PREFACE: POSITIONALITY STATEMENT

My career is centered on agriculture and education. I am intimately familiar with many of the organizations discussed in this thesis, whether through proximity and collegiality, my experience as a participant, or as a leader and decision maker within the organization. I was born and raised in Santa Cruz, California and rode the bus to school past the entrance to the University's beautiful campus. As I began to explore a career in agriculture, UCSC's Center for Agroecology and Sustainable Food Systems (CASFS) was a touchstone that I could return to anytime I went home to visit. My first step toward a career in sustainable agriculture was as a member of the Agriculture and Land-Based Association's (ALBA) *Programa Educativo para Pequeños Agricultores* a bilingual farmer-training program in Salinas, California. Immediately before embarking on my current role as manager at Santa Rosa Junior College's Shone Farm in Santa Rosa, California, I worked for four years as the Farm Manager on the Evergreen Organic Farm. I worked very closely with the faculty, staff, programs, and some of the students that are the very subject of this research.

I am grateful to Evergreen's Masters of Environmental Studies program for offering the flexibility and resources that allowed me to study something so immediately relevant to my work, yet I want to acknowledge that this proximity affords both advantages and disadvantages. Despite a careful study design and a strong foundation built on the work of previous researchers, I am not naïve enough to think that my personal bias in favor of the kind of agricultural education offered at Evergreen will be absent in the research presented below. It is my sincere hope that these efforts will be of use to the many people engaged in supporting campus agricultural projects throughout the country, but please keep in mind as you read that I maintain a personal stake in sustainable agriculture education.

In the subsequent research, I follow the framing of Brandon Hoover and Lindsey MacDonald (2007), who distinguish between agricultural education programs on campuses based on whether the program aims to train *food citizens* or *food producers*. Much more on the details of this distinction to follow, however a key step to becoming a food citizen is to develop an understanding of one's place in the food system relative to other community members. My place in the food system as a college-educated, white, cis-gendered male has granted me opportunities not available to others in the field. I am the beneficiary of community support from a community that has presented me with relatively few barriers to entry. Things are slowly changing in the agricultural community, but the overwhelming majority of US farm owners identify in a very similar way to me (USDA NASS, 2017).

The data from this research indicate an increasing prioritization amongst program participants of the importance of efforts towards equity in the food system. Much work remains to be done and it is critical that current and future food system leaders (of whom I count myself one) learn to work for the good of the whole community. These results shared reflect a particular context, of which I am a part, and should not be construed to be universal -- though I do hope that you will find them useful.

CHAPTER 1: INTRODUCTION

The number of people engaged in food and farming in the United States continues to fall, raising concerns about who will produce the nation's food (Jöhr , 2012; Merrigan and Best, 2012; Hansen et al., 2015; Ackoff et al., 2017). According to the USDA, the 3.2 million farmers recorded by the 2012 Census of Agriculture are the fewest since before the Civil War (USDA, 2014). At the same time, concerns about climate change, environmental and social justice, and a modern yearning to connect to the land have inspired a proliferation of farms, gardens, and other agricultural projects on campuses throughout the United States (Barlett, 2011; LaCherite, 2015; Hoover and MacDonald, 2017). According to a key recent study, the number of campus agricultural projects (CAPs) expanded more than tenfold from the early 1990's to 2015 (LaCherite, 2015).

Campus agricultural programs vary in scale and scope, but all require resources that are not common to other academic pursuits on campus. As a result, the programs can be resource intensive. Unfortunately, due to the often-limited nature of the relationship between colleges and universities and their alumni (which is often restricted to fundraising) many programs are not evaluated on a long-term basis to determine if they are able to meet their goals.

This study aims to fill a gap in the literature of program evaluation of college farms by examining the principal academic program at The Evergreen State College's Organic Farm over a two-decade period. The present study utilizes a web-based survey of program participants, modeled from a first-of-its-kind 2009 study by Jan Perez, Damian Parr, and Linnea Beckett at the Center for Agroecology and Sustainable Food Systems (CASFS) at the University of California, Santa Cruz (UCSC). Perez and colleagues sought to answer the question: is the program achieving its goals of training farmers and gardeners to work towards a more

sustainable food system (Perez et al., 2010)? Although Evergreen's programs do not have such clearly defined goals, the parallels between the two programs are profound and the intentions of those involved are similar (Bramwell et al., 2011). Part of the analysis of this study is to compare the results of Perez and colleagues' survey with results from the present study of Evergreen's farming program.

In addition to substantial similarities between the UCSC and Evergreen programs, there are also significant differences. For example, the program at Evergreen is a credit-bearing component of the curriculum whereas the CASFS apprenticeship awards a certificate, not UC credits. The survey instrument was adapted to reflect the differences between Evergreen and UCSC, while preserving as many points of comparison as possible. It was also shortened to increase the likelihood of engagement and response. The initial development of the survey instrument by Perez and colleagues hued closely to best practices for surveying outlined by Don Dillman, Jolene Smyth, and Lean Melani Christian (2009) (Perez et al., 2010). Administration of the modified survey instrument, including the crafting of the welcome letter and follow-up communications, was likewise modeled after the latest edition of work by Dillman and colleagues (2014).

Responses at Evergreen showed a substantial achievement of the results in question in a way similar to UCSC. In order to put the results in context it is imperative to have a basic understanding of the program(s) being studied. Evergreen stands out in the ecosystem of the US academe for its iconoclastic and interdisciplinary approach to education and evaluation. What follows is a sketch of Evergreen's curriculum, the relevant history of the Organic Farm and the associated academic program, as well as an abbreviated discussion of UCSC's program.

Curriculum at Evergreen

The Evergreen State College was founded in the midst of the social upheaval in the late 60's and early 70's. The College is noted for its innovative curriculum and pedagogy (Colleges that Change Lives, 2021) which is framed by the five foci: interdisciplinary study, collaborative learning, learning across significant differences, personal engagement, and linking theory with practical applications (The Evergreen State College, 2021). The implementation of these principles often yields full-time, team-taught, multi-quarter programs that blend multiple disciplines into a coherent theme. Evergreen famously does not offer majors or organize faculty into departments. Rather than letter grades, evaluations are written in prose and shared at a meeting between faculty and each student. Students are expected to evaluate their faculty in the same way that a professor evaluates their students. Although rare, Evergreen's approach is not completely without peers. Other colleges and universities that do, or have, operated under similar principles, include Hampshire College in Massachusetts, the New School in New York, and for a time, the University of California, Santa Cruz (UCSC), amongst others (Shevitz, 2000).

Evergreen's uncommon pedagogy is critical to the character of the Organic Farm and the academic program. On the Organic Farm, faculty, staff, and students often work side-by-side towards a common goal – finishing a big harvest, designing and installing a hedgerow, or processing a batch of chickens raised on the farm. This level of meaningful connection leads to meaningful evaluations.

Perhaps the most important element of Evergreen's pedagogy as it applies to the Organic Farm is that it allows students the one thing they struggle most to get at many institutions—time on the farm itself. The farm provides an opportunity to put the lofty peadagogical principles into practice. Students receive basic instruction on soil sampling techniques, pull samples from the

farm fields, process those samples themselves in the lab, and work with faculty and staff to develop the season's soil amendment plan.

Academic Programs on the Organic Farm

The Practice of Sustainable Agriculture, later known as the Practice of Organic Farming (PSA/POF) or simply "the farm program" has evolved dynamically over the years, with different iterations finding more or less success. In their 2011 chapter for Laura Sayre's *Fields of Learning,* authors and Evergreen faculty and staff members Stephen Bramwell, Martha Rosemeyer, and Melissa Barker lay out a series of questions that have been asked through the years at the Organic Farm. These are high-level questions, such as "What is the length of the program (measured in quarters)? Should it follow the farming season?" (p 95). Taken together, the answers to these questions provide the outlines of the farm program curriculum. The fact that these questions are not accompanied by prescribed answers offers an indication of the flexibility and creativity (as well as the responsibility) that is given to those who create the curriculum each season at the Organic Farm.

Broadly speaking, since its founding in 1992, the farm program has been a full-time, three-quarter program timed to run in Spring, Summer, and Fall quarters to hue as closely as possible to the agricultural calendar rather than the demands of the academic calendar. PSA/POF is an immersive and demanding experience that lends itself strongly to the connection of theory and practice (Bramwell et al. 2011). Students average between 16 and 20 hours per week of hands-on, on-farm time spent in labs, demonstrations, fieldwork, chores, market shifts, and group work. This is in addition to at least 8 hours per week spent in the classroom and laboratory for lectures, seminars, labs, and guest speakers, as well as overnight field trips.

The PSA/POF program has been the beating heart of the Organic Farm, but additional programs also use the land and space to an extent. This access to academic programs, along with a deference for agricultural programs, was one of the key tenants of the founding of the farm (Hagenberger, et al. 1981). Engagement varies from hosting a discrete end-of-the-quarter potluck at the farmhouse to long-term on-farm research such as the monitoring of ground beetle populations throughout the farm. Opportunities also exist outside formal academic programs for both academic and extracurricular engagement on the Organic Farm. Independent Learning Contracts (ILCs) offer students the chance to pursue self-directed study and experimentation (for example, mapping soil types on the farm) while clubs such as the Herbal Medicine Club and Community Gardens provide non-academic opportunities.

Staffing and Institutional Support

One of the key elements for successful campus agricultural projects is reliable and competent staffing (Ratasky, 2013). This is self-evident when comparing the long timescale over which farmers evaluate their work compared to the short timescale for which students enroll in a course of study. Put differently, successful land management requires a deep dedication to a particular place, while good education requires gives students the tools to leave that very place. For most of the survey period, the Organic Farm was staffed by a 90% time Farm Manager and a 60% time Assistant Farm Manager. The PSA/POF program itself has been led from an academic sense team-taught, led be a single non-rotating faculty member, and even taught largely by the Farm Manager operating in a hybrid staff/faculty position. The Organic Farm offers on-farm employment to students, typically students with previous farming experience or those who excelled in the farm program itself. These Farm Aides support students in the field, help faculty prepare labs, finish projects that did not fit into the allotted class time, and generally assume

greater responsibility. All wages, salaries, and benefits are paid for by the College, though the supply budget is largely generated through the sale of Organic Farm products and through grants and donations.

Brief History of The Evergreen Organic Farm

The Organic Farm was founded and sustained by student's persistent desire for an alternative to industrial agriculture (Bramwell et al. 2011). The vision grew out of an interdisciplinary program called Environmental Design in 1971 (Mahmood, undated). Students in this program discovered that the College owned an 11-acre homestead a short downhill walk through the second-growth forest surrounding the main campus (Bramwell et al., 2011). The initial proposal for the farm makes it clear that it was to be "an organic farm modeled after the Santa Cruz and the J.I. Rodale experimental farms" (Kagan, 1971). An interesting illustration of the energy behind food systems' change at the time is the appearance of the Olympia Food Conspiracy, a fledgling food-shopping alternative that grew into the stable and successful Olympia Food Co-op, in the same issue of the student-run newspaper announcing the Organic Farm proposal to the campus community (Martin et al., 1971).

The Evergreen Organic Farm was approved by the Board of Regents and the first organic garden was designed in the spring of 1972 (Bramwell et al. 2011). Student caretakers were able to stay on the farm over the summer to maintain the garden during its period of academic fallow and infrastructure and engagement slowly but surely began to grow on the farm, through a combination of institutional and community support, most notably the presence of live-in student caretakers (Mahmood, undated). The Organic Farm received needed curricular stability in the early 80's with the hiring of Pat Labine, the first permanent farm program faculty. The need for a permanent Farm Manager was also recognized at this point in the Organic Farm's development,

though that position would not be filled until 1985 (Felicia et al., 1981). The hiring of a part-time farm manager eventually led to the first full-time, three-quarter farm program, The Practice of Sustainable Agriculture (Bramwell et al. 2011). This program stayed in place until 2014 when the name was changed (described below) to reflect the ongoing conversation about the meaning of sustainability and the practices taught in the program.

When the farm was founded in the early 70's, there was not a rigidly defined meaning for the term "organic farming." Certification was just beginning, with the first organic labeling law in the nation passed in Oregon in 1972-73 (Sunbow Farm Website) and California Certified Organic Farmers (CCOF) offering the first organic certification program the same year. That changed with the 1990 passage of the Organic Foods Production Act which began the process of creating a national organic standard (Kuepper, 2010). It took ten years for the rules to be finalized in the National Organic Program (NOP), which was published in 2000 and took full effect in 2002 (Rundgren, 2002).

Organic agriculture has always been a political designation. There were heated debates about what would be included in the NOP rule including the initial inclusion of the 'big three': irradiation, genetically modified organisms, and sewage sludge (Vos, 2000). The draft of the NOP rule released in 1997 generated nearly 280,000 public comments, a record at the time (CCOF, 2021). Ultimately, the big three were left out of the rule, but this kind of passionate response to the contested definition of organic has remained. The decision was made by Evergreen faculty that the Organic Farm's mandate to follow organic practices delineated a clear framework for growing practices and that the term *sustainable* did not clearly convey those practices to students. Thus, the Practice of Sustainable Agriculture was renamed the Practice of Organic Farming.

UCSC Apprenticeship in Ecological Horticulture

UCSC and Evergreen were born out of similar reactions to the existing educational paradigm and shared many similarities at the time of their founding. For example, both asked faculty to provide their students with narrative evaluations of class performance, rather than simple letter grades, until UCSC changed their policy in 2001 (Schevitz, 2000). Given the historical similarities between the Evergreen Organic Farm and the UCSC Farm and Garden, as well as the nature of this research, it is fitting to provide some context about CASFS' Apprenticeship in Ecological Horticulture (AEH) program.

Alan Chadwick, dubbed the "high priest of hippie horticulture" by Modern Farmer magazine (Solovitch, 2015) began the Student Garden Project at the University of California, Santa Cruz (UCSC) in 1967. The success and dedication that Chadwick and his student apprentices demonstrated on the steep and rocky hillside inspired the University to create the UCSC Farm in 1971 (Brown, 2000). The informal apprenticeships that began with Chadwick were formalized in 1975 into a yearlong residential program (Perez et al., 2010). The apprenticeship evolved through the years, and at the time of Perez and colleauges' evaluation consisted of 300 hours of instruction coupled with 700 hours of hands-on activities and work in a residential program running from April to mid-October (Perez et al., 2010).

Key Differences Between Evergreen and UCSC

There are many similarities between the AEH and Evergreen's farm program, but three clear differences deserve to be highlighted: the relationship between student and institution, between student and student, and between the program and the public.

The AEH explicitly does not offer course credit through the UC system; rather students earn a certificate in Ecological Horticulture issued through the UC Cooperative Extension

service. In fact, only 18.4% of respondents to Perez and colleagues' survey were ever UCSC students. Of those that did matriculate, the vast majority were students prior to enrolling in the AEH (Perez et al. 2010). In contrast, Evergreen students earn credits that contribute directly to their pursuit of a bachelor's degree.

The Practice of Sustainable Agriculture and the Practice of Organic Farming traditionally included communal elements such as potlucks and overnight excursions, but it is difficult to compare these elements with the fully immersive communal living experience of the AEH. The majority of respondents to the UCSC survey lived on the farm in tents and shared a central kitchen for meals and social events. Perhaps this goes some way to explaining the tremendous response rate for the survey – a deep connection that comes with countless hours spent together. The AEH has, for many years, invited a handful of the most engaged students to stay on the farm for another season with an expanded leadership role. These seven second-year apprentices work as assistant instructors for the subsequent year's first-year apprentices (Perez et al, 2010). There is some similarity between the role that these second-year apprentices play to that of Evergreen's Farm Aides, but Farm Aides are also full-time students who work on the Organic Farm part-time. In contrast, second-year apprentices typically work and live full-time at CASFS.

Perhaps the most important difference is the relative size and scope of the two programs. CASFS is a fully developed center with 21 listed staff (including both Perez and Parr, co-authors of the 2010 study). The lands under management include the 3-acre Alan Chadwick Garden and the 30-acre Farm, which is divided into production fields, research fields, perennials and farm garden. Certainly, CASFS staff and lands are focused on far more than just the AEH, but the scale of resources available to CASFS apprentices is not easily equaled anywhere in the country, and surely not at Evergreen.

As one might expect with the level of development at CASFS, the Apprenticeship in Ecological Horticulture is renowned both nationally and internationally, earning the moniker "the mothership of organic agriculture" from the New York Times and other publications (Bittman, 2015). Alumni projects listed on the *Where are they now? Apprenticeship Alumni Map* are distributed widely throughout the US, as well as abroad in seven countries (CASFS, 2021).

Summary

There are many programs that seek to address the changing face of agriculture in this country. Two of the most unique and robust –at The Evergreen State College and The University of California Santa Cruz -- are examined here, with particular focus paid to the work and activities of past participants of programs on the Evergreen Organic Farm. These programs and the farms that host them emerged at a unique time in US history; a basic understanding of both the general and specific historical context is helpful in understanding the farms and programs.

CHAPTER 2: LITERATURE REVIEW

Introduction

This research focuses on a particular type of on-campus agricultural project – what is often called a student farm. In order to understand agriculture on campus, it is helpful to understand the broader context of agriculture in the country. This chapter presents a brief treatment of the cultural shift around agriculture that has occurred in the US over the last century or so as Americans left the farm to be replaced by industrial systems. The conflict often embedded in these conversations is illustrated in the history of the Evergreen Organic Farm program. Following this treatment, the chapter provides context to the history of agriculture on college campuses, which is by no means a modern contrivance. A far more modern effort which closely parallels the work of student farms are non-profit farmer training programs. These are examined in some depth because of the parallels to the work being done at both Evergreen and UC Santa Cruz.

Cultural Shifts in Agriculture: The Meanings of Alternative, Sustainable, and Organic

A vast number of terms exist that one can use to describe alternatives to the farming status quo. For the most part, these terms all have distinct meanings coined in response to particular historical realities. This section provides a brief primer on the numerous terms and an historical sketch on their development. In the context of this research, the terms are less important in themselves than they are as signposts on the evolution of alternative agriculture and its location within alternative culture over the last half century. However, particular attention is paid to the meaning of *sustainable agriculture* and *organic agriculture*, because of their importance in the naming and framing of the Evergreen academic programs Practice of Sustainable Agriculture and Practice of Organic Farming.

Alternative Agriculture

When The Evergreen State College (Evergreen) and University of California, Santa Cruz (UCSC) were founded, cultural trends including the back-to-the-land movement and counter-culture drove student interest in *alternative agriculture*. The paradigm of alternative agriculture included "independence, decentralization, community, harmony with nature, diversity, and restraint" (Beus and Dunlap, 1990; quoted in Bhavsar, 2002, p. 21). These principles (with the possible exception of restraint) were also common elements of the socio-political counter culture of the time.

Just as the counter-culture was defined by what it stood in opposition to, the farming practices used on campus were a reaction against *conventiona*l or *industrial agriculture*, a set of practices fueled by manufacturing and technological changes driven by World War II. In the 1970's this industrial farming paradigm was strongly associated with Earl Butz, the controversial USDA Secretary of Agriculture from 1971-1976. Butz began his USDA tenure the same year that Evergreen's Organic Farm was birthed.

Butz is remembered for urging farmers to "get big or get out" and to plant from "fencerow to fencerow." He was perhaps less important as a policy maker than as a figurehead, but his tenure has come to symbolize industrial agriculture's widespread use of petrochemicals, large equipment, and efficiency through specialization (Berry, 1977; Rosenberg & Stucki, 2018). Butz' tenure also highlighted the deep-seated racism at the USDA – his tenure came to an ignominious end when reports surfaced of appalling racist comments he had made.

The industrial agriculture represented by Butz produced compelling yields, but at great environmental cost. As early as 1962 Rachel Carson's *Silent Spring* highlighted the negative externalities of the industrial agricultural system, prompting widespread public awareness of the

perils of pesticide use and abuse. This raised the profile of alternative agriculture in explicit opposition to industrial agriculture and the Environmental Protection Agency (EPA) was established in 1970 and charged with the regulation of pesticides (Stoll, 2020).

Sustainable Agriculture

The UN's Bruntland Report in 1987 introduced the concept of sustainable development on the global scale. As sustainability became the byword for environmentalists, sustainable agriculture became a term reflecting a set of farming practices that promised stable farming systems without the harm inflicted by their chemical counterparts (Harwood, 1990).

The use of sustainable agriculture in common parlance in the 1980's and 1990's reflects a particular set of practices and political values. Indeed, the USDA has a code that defines sustainable agriculture for purposes of grant making through the Sustainable Agriculture Research and Education office, established in 1988 (U.S. Code Title 7, Section 3103). It must be noted that these techniques were not developed in North America. Rather, sustainable agriculture, as discussed in the context of this study, is based on the practices of farming people stretching back thousands of years. Its academic foundations include Sir Albert Howard, who acknowledged the uneducated farmers in India as his true professors (Berry, 2006).

Though disagreements and discussions about the definition of sustainable agriculture still exist, common concepts include care for the soil and natural ecosystem, integrated pest management, emphasis on biodiversity, and concern for the workers and animals integral to production. It can be understood as the inheritor of the political and cultural capital of the alternative agriculture of the 1960's and 1970's (Pilegram, 2013).

Organic Agriculture

Organic agriculture is an influential subcategory of sustainable agriculture. In contrast to the lack of clarity surrounding the definition of sustainable agriculture, organic is strictly codified. Indeed, the USDA National Organic Program (NOP) has an arm dedicated to enforcement and the preservation of organic integrity. Even the word itself is prohibited from use in marketing claims made for products not certified according to the agency's guidelines. The process or becoming certified involves high fees (sometimes partially offset by government subsidies), extensive record keeping, and in-depth yearly inspections.

The strictures surrounding organic seem to have inspired consumer trust, which has driven demand. Sales of organic food items in the US grew from twenty-five billion dollars in 2011 to more than 56 billion dollars in 2020 (Organic Trade Association, 2021). Growth has slowed from the heady days of the last decade, but organic is still one of the fastest growing sectors and room for growth remains – in 2019, organic food accounted for just under six percent of food sales in the US (Wunsch, 2021).

As a large national program, the NOP encompasses bureaucratic vagaries, and some of the finer points of the regulations can confuse producers and consumers alike. For example, although certified organic producers are prohibited from using almost all synthetic pesticides, there are no such prohibitions on using pesticides of equal potency so long as they are manufactured from natural ingredients. It is commonly assumed that the difference between inputs that organic producers are permitted to use and those they are prohibited from using is one of toxicity. In reality, the key factor is provenance – are the ingredients naturally occurring or synthetically generated? (USDA, 2015).

Farmer-training programs that focus on organic agriculture always spend time on the rules and regulations, forms and fees, and the paperwork and process of inspection and

certification. College farms and gardens that are certified organic frequently employ paid staff members who manage the initial certification process and the yearly recordkeeping and inspection requirements. The requirements of certification are often cited as a barrier that prevents more producers from certifying (Veldstra, 2014).

The term *sustainable agriculture* will be used in this thesis. The lack of precision inherent in the term is useful, as its broader scope encompasses a larger proportion of campus agricultural programs. For example, Evergreen's own farm program changed names during the study period from the Practice of Sustainable Agriculture to the Practice of Organic Farming, despite not changing its farming practices. As an umbrella term, s*ustainable agriculture* encompasses this program in a way in which *organic agriculture* simply cannot. Perhaps for this reason, sustainable agriculture is the term most commonly used in the literature (as outlined below) to describe farming practices on student farms (see Sayre, 2011; Parr and Van Horn, 2006; Parr and Trexler, 2011).

Additionally, sustainable agriculture and food system focused fields of study are proliferating at a wide-variety of colleges and universities in North America (Parr, 2009; Hilimire, 2014; LaCherite, 2015; Valley, 2018). The Sustainable Agriculture Education Association was founded in 2006 to support the growth of sustainable agriculture programs throughout the country (Jacobsen, 2012). It currently hosts listings for roughly 150 academic degree programs from schools as varied as the University of Wyoming and Tufts (SAEA, 2021).

Agriculture on Campus

On-campus farms and gardens are proliferating on campuses throughout the country (Sayre, 2011). The scope and scale of this transformation is unprecedented (LaCherite, 2015), but the concept itself far from a new and novel development. *Work colleges* and *Land-Grant*

Universities (LGUs) and have incorporated agriculture on campuses throughout the country for more than 150 years. While there are large differences (outlined below) between these programs and the kinds of student farms investigated in this thesis, Laura Sayre suggests strong parallels between them: "many of the seemingly novel challenges and questions posed by campus-based farms today were raised as well by observers of the movement in its earliest decades" (Sayre, 2011, p. 5). A brief examination of these programs provides important context to the understanding of the modern student farm.

Work Colleges

Perhaps the earliest example of agriculture on campus is found in the work college. Work colleges are those in which on-campus work is an essential and mandatory part of the educational experience (Wolniak and Pascarella, 2007). The modern work college would be hard-pressed to operate without its student labor force, yet the work itself is designed to maximize student learning and students can frequently defray the cost of their tuition through their efforts. Students at Warren Wilson, for example, can join the garden crew to raise vegetables or the farm crew to raise field crops and livestock. They can expect to work between eight and sixteen hours per week and ought to meet predetermined learning outcomes at the end of their term on the crew. In addition to hands-on learning opportunities, students receive a yearly tuition award as a result of their labors (Warren Wilson, 2021).

Historically, the vast majority of work colleges contained – and in many cases were founded upon – agricultural endeavors. These schools tend to emphasize the dignity of work and the commonality of all students. For example, Berea College was the first college in the South to be co-ed and racially integrated (Day, 2013). As society has changed and farming has been replaced at the center of the economy, work colleges have adapted their work opportunities to

encompass positions across campus, though several still include agricultural labor (Barton, 2018). The Work Colleges Consortium website lists eight member institutions, three of which – Berea, Sterling, and Warren Wilson-- still feature award-winning campus farms (Work Colleges, 2021).

Land Grant Universities

The Morrill Land Grant Act of 1862 and 1890 established colleges whose goal was "to teach such branches of learning as are related to agriculture and the mechanic arts" (US Code 7 Sec 304). The Hatch Act of 1887 and the Smith-Lever Act of 1914, which established agricultural experiment stations and the cooperative extension service, followed the Morrill Act. The most recent land-grant dedication came in 1994, when 29 tribal colleges received land-grant university status. There is significant recent reporting highlighting the deep colonial roots of the so-called "land-grab universities" (Lee and Ahtone, 2020). The LGU system is the basis for the reductionist approach to industrial agriculture that came to define the US food system, but it is also the major driver of agricultural education in the country: **"**The LGU system is a major contributor to publicly funded higher education because of its unique history of practical instruction to citizens of ordinary means" (Jacobsen, 2012; p. 16).

Recently, traditional LGU agriculture programs have been losing students and in response, some schools have begun updating entire programs to align with sustainable agriculture themes. The 2013 founding of the Agroecology program at Penn State University is a prominent example of this (Jacobsen, 2012). Washington State University made headlines in 2007 as the first program in the country to offer an organic agriculture major (OFRF, 2012). Evergreen, of course, does not offer majors, as such, but takes great pride in having offered

sustainable agricultural education for decades longer than has its LGU counterpart in Washington State.

In addition to sustainable agricultural programs, LGUs now boast prominent student farms including those at UC Davis (Parr and Horn, 2006), Michigan State University (Biernbaum, 2006), and Washington State University (Perillo, 2007). According to the Organic Farming Research Foundation, the number of student farms at LGUs increased from 9 in 2003 to 36 in 2011 (OFRF, 2012) and the implementation of sustainable agriculture initiatives by LGUs has made early adopters like UCSC scramble to catch up – UCSC launched a new Agroecology major in 2020 (McNulty, 2020).

Non-profit Farmer Training Programs

Work colleges and LGUs provide clear parallels to the programs at both Evergreen and UCSC. They are on-campus agricultural endeavors operating within the bounds of particular academic institutions. There are also off-campus programs with similar values and aims – non-profit farm training programs. This section will briefly discuss the similarities and differences between college and university affiliated programs and those aligned with non-profit or non-governmental organizations. Although not the focus of this research, the comparison is illustrative in both similarities and differences.

The most common iteration of the farmer training non-profit is the farm incubator. Farm incubators offer support and subsidy for beginning entrepreneurs, with a particular focus on factors seen as barriers to start-up (Winther & Overton, 2013). The key difference between a farm incubator and other business incubators is the need for land access. The National Incubator Farm Training Initiative (NIFTI) reflects this necessity: “A farm incubator project is a *land-based* multi-grower project that provides training and technical assistance to aspiring and

beginning farmers" (Winther & Overton, p. 7; italics added). Farm incubators vary from region to region based on cultural, geographical, and economic factors but they all offer access to land at a reduced cost (Winther & Overton, 2013). To access this land, beginning farmers must normally participate in educational programing or demonstrate that they have the basic skillset to manage the land responsibly (Benson, 2019). The beginning farmers are typically given additional support in terms of access to shared or subsidized equipment and technical assistance.

Despite similarities, on a fundamental level an incubator farm is different from the programs offered on campus. The Agriculture and Land-Based Training Association (ALBA) is a highly-regarded non-profit farm incubator program based in Salinas, California. ALBA's mission is to create "opportunities for low-income field laborers through land-based training in organic farm management, helping them advance their careers or pursue the dream of farm ownership" (ALBA, 2021). In contrast, the Evergreen farm program fits into the broader College mission, which "emphasizes collaborative, interdisciplinary learning across significant differences" (TESC, 2021). This does not mean that the farm program at Evergreen does not produce economic opportunity for program participants or that ALBA and other farm incubators are unconcerned with collaborative and interdisciplinary learning. However, the natural divisions between the two make it more likely that college and university programs will produce more food citizens while incubator farms will produce more food producers. Evergreen's PSA/POF program and UCSC's AEH occupy a relatively small niche that allows them to develop both food citizens and food producers.

Previous Research

To this point, the work of this chapter has been to lay the groundwork on which student farms in the US must be understood. With this context firmly established the following section

examines the existing body of literature and situates the current research squarely within it. The section begins by outlining the research that inspired the current project and continues in roughly chronological order. This is a rapidly expanding field, with an exponential increase in interest since some of the first work was done at UCSC.

The inspiration and model for this research is the groundbreaking evaluative work done by Jan Perez, Damian Parr, and Linnea Beckett at UC Santa Cruz (2010). Perez and colleagues executed a first-of its kind evaluation of the Apprenticeship in Ecological Horticulture (AEH), the internationally known and respected farm and garden training program that was the inspiration for The Evergreen State College's own Organic Farm. In their review of the literature a decade ago, Perez and colleagues found very little to which they could compare their work: "only a few published evaluations exist that explore how, or to what extent, programs similar to the AEH have achieved their outcomes" (Perez et al., 2010, p. 110). They go on to review only three studies, with a cursory review of two followed by a more in-depth treatment of the work of Strochlic and Wirth (2005) which evaluated outcomes at ALBA. Parr and Trexler also note that there is little research-based literature focused on sustainable agriculture in higher education (Parr & Trexler, 2011).

In the decade since Perez, Parr, and Beckett surveyed AEH alums, there has been increased academic interest in campus agricultural projects, including a sizeable amount of unpublished research at the Masters and PhD level (e.g Gardner, 2012; Ratasky, 2013, Hyslop, 2015; Pineault & Vining, 2016; Barton, 2018). The very next year (2011) saw the publication of *The Fields of Learning: the Student Farm Movement in North America*, edited by Laura Sayre. This book includes chapters written by key stakeholders from 15 long-standing university-based student farms throughout North America (14 spread through the US plus the University of

British Columbia in Canada). Most importantly for purposes of this study, the Evergreen Organic Farm is one of the featured farms. The authors give an overview of the farm's attributes, programming, and successes and failures on their respective campuses. This is the most robust treatment of university-based student farms to date. The book provides an exhaustive inventory of student farms in the US and Canada (80 total), and provides basic information such as farm size and crops grown.

The Fields of Learning was followed in 2015 by work from Kerri LaCharite, who surveyed more than 300 campus agricultural projects about curricular connections and engagement. LaCharite notes that the number of campus agricultural projects (a technical term to be defined below) grew dramatically at the turn of the millennia, from roughly 23 in 1992 to nearly 300 in 2015. In fact, the 2009 College Sustainability Report Card reported 29 percent of responding institutions hosted some form of campus agricultural project (Sustainable Endowments Institute, 2009 cited in Hoover and MacDonald, 2017).

LaCharite identifies several important ways that the role of agriculture on campus has grown and evolved since the era of land-grant university dominance. This is not to suggest that LGUs are no longer relevant, but that the development of *food citizens* (Hoover and MacDonald, 2017) may not require the same level of infrastructure and investment that LGUs bring to bear on their agricultural curricula (Gray, 2012). Indeed, precisely because of the lack of infrastructure, the interdisciplinary methods so well suited to educating food citizens –students equipped with the systems thinking tools and problem solving abilities to engage the modern food system— have been incorporated in many curricula. Often existing outside strict academic silos, these new campus agricultural projects are not beholden to departments in the same way they may have been in an earlier age (Barlett, 2011; LaCharite, 2015).

The values professed by programs that are part of this new wave of sustainable agriculture education, even those that have been established for some time like Evergreen, are compatible with the food citizen model, not the food producer model. Gardner (2012) finds particular emphasis placed on community engagement, experiential learning, and a strong commitment to sustainability (Gardner, 2012; LaCharite, 2015). In their 2016 survey of students involved in student farms across 17 liberal arts campuses, Pineault and Vining highlighted the importance of food production for the institution and the fact that students are "not generally motivated to engage with the farm for career aspirations" (Pineault and Vining, 2016, p. 2). Further support for the food citizen paradigm – if students want to be involved with student farms but do not want to ultimately work on farms, they are clearly finding other value in the program.

LaCherite found that most campus agricultural projects were new and small (LaCherite, 2015). Nearly half of the 353 campus agricultural projects she investigated were established between 2005 and 2010. Hoover and MacDonald (2017) found similar results in terms of farm size and age. Sixty percent of the projects surveyed by LaCharite were under one acre in size, with 44% under a half-acre (LaCharite, 2015). By way of comparison, The Evergreen State College Organic Farm consists of five developed acres, including two acres of annual crops, one half acre of perennial crops, and one half acre of shaded field border kept in grass for livestock (Bramwell et al., 2011).

LaCharite also notes the lack of standardization for the naming of campus agricultural projects, some of which are called gardens and some farms, regardless of the size. In general, the term 'farm' connotes a slightly larger scope and scale. For example, the Center for Agroecology and Sustainable Food Systems (CASFS) manages two gardens and one farm, which are spoken

of collectively as the UCSC Farm and Garden. The gardens are much smaller in size –two and three acres, respectively— and largely focus on hand-scale agricultural techniques that are accessible to students and easily transferable in a wide-variety of contexts. On the 30-acre farm, the focus is on streamlined production and efficiency of scale, including an emphasis on appropriate technology such as machine cultivation (weeding using tractors) (*UCSC Farm and Alan Chadwick Garden*, 2021).

The challenge of defining a campus agricultural project is common in the literature, with many authors providing their own definition for the purpose of clarity (Parr and Trexler, 2011; Sayre and Clark, 2011; Gray, 2012; LaCharite, 2015).The terms most commonly used are *student farm* and *campus agricultural project*. Of the two, campus agricultural project is the broader, encompassing nearly any agricultural endeavor tied to the campus community. This includes community gardens, individual student plots, demonstration gardens, college farms and more (Ratasky, 2013). Student farm is a more narrow term and has less agreement about the definition. Laura Sayre notes that there are many farms, including those outside of academic institutions that could colloquially be referred to as student farms for their focus on training the next generation of farmers. She and co-author Sean Clark limit their attention to colleges and university agricultural operations that focus on student engagement and leadership coupled with a focus on sustainability and environmentalism (Sayre, 2011). Parr and Trexler (2011) describe a student farm as one with a focus on hands-on learning on a small-scale, diversified operation with opportunities for direct marketing (Parr and Trexler, 2011). It should be noted that they reference 5-25 acres as the size of a small-scale farm.

Food Citizens and Food Producers

Hoover and MacDonald note that campus agricultural projects place great importance on *food justice, food democracy, and community development* (Hoover and Macdonald, 2017). Food justice is a particular embodiment of the environmental justice movement, sparked within the academe by the groundbreaking work of Dr. Robert Bullard (Bullard, 1983). Food justice is the idea that "the benefits and risks of where, what, and how food is grown and produced, transported and distributed, and accessed and eaten are shared fairly" (Gottlieb and Joshi, 2010, p. 6 as quoted in Gray, 2012). This interdisciplinary move to connect agriculture to issues of social justice and fairness is central to the distinction Hoover and MacDonald make between training *food producers* and training *food citizens*. The notion of a food producer is realtively well-understood, the concept of a food citizen may require more explaination. Hoover and MacDonald describe a food citizen as a responsible member of the food system, a holistic category that includes every component of the way that food is raised, harvested, processed, distributed, and consumed.

The food citizen and food producer dialectic is the frame through which this research is understood and will be touched upon later in the paper. In addition to this fundamental paradigm, Hoover and MacDonald (2017) also offer perhaps the most relevant reflection on student outcomes since Perez and colleagues (2010). Although their research focused on student and academic engagement with campus agricultural projects while on campus (rather than after program completion), they did investigate respondents understanding of students' post-participation work or study in the food system. Note that the survey was sent to a single representative of participating institutions, so information was necessarily second-hand.

In Hoover and MacDonald's study, two-thirds of respondents reported knowing at least one student who went on to further work or study in the food system, though "many individuals

reported that they only had limited anecdotal evidence on what their students have gone on to do, and wished they had done a better job of tracking alumni information" (Hoover and MacDonald, 2017, p. 11). Given the relatively meager amount of program evaluation data available for student farms, it is safe to assume that this is a common opinion. The current research seeks to address this need for the Evergreen Organic Farm.

Summary

This chapter establishes the use of technical terms key to the research, such as sustainable and organic agriculture, campus agricultural projects and student farms, and perhaps most importantly, food citizens and food producers. It gives a picture of the shape of preceding research on student farms including the limited work investigating outcomes on those farms. With this context in place, the next chapter details the particular methods used in this study and notes places where the current study deviates from the work of Perez and colleagues.

CHAPTER 3: METHODS

Introduction

The purpose of this study is to describe the outcomes and food system activities of participants in the Evergreen State College's Practice of Sustainable Agriculture/Practice of Organic Farming (PSA/POF) program. This chapter discusses specifics of the study on which the current research is modeled, differences between that study and the modified survey instrument used here, and the mechanics of the administration of the survey to the target population. This is followed by an explanation of the analysis used.

The inspiration and model for this research is the groundbreaking evaluative work done by Jan Perez, Damian Parr, and Linnea Beckett at UC Santa Cruz' Center for Agroecology and Sustainable Food Systems (CASFS) in 2010. Perez and colleagues executed a first-of its kind evaluation of the Apprenticeship in Ecological Horticulture (AEH), the internationally known and respected farm and garden training program that was itself the inspiration for The Evergreen State College's own Organic Farm.

Perez et al. worked with CASFS staff and program alumni to develop their initial survey and did extensive pre-testing with 17 respondents (Perez et al., 2010). The final CASFS program evaluation survey (n=299) included 60 questions and took respondents an average of 50 minutes to complete, yet still received an astounding 60% response rate (Perez and Brown, 2010).

For the present study, a very similar survey instrument was developed with slight modifications to reflect the contextual differences between UCSC and Evergreen. An effort was made to preserve as much of the original survey as possible to facilitate comparison, while also seeking to reduce the length of the survey to what was felt could be a more manageable time

commitment of 20-30 minutes, and creating an instrument that could reflect the structural differences between the AEH and PSA/POF.

The revised survey instrument for Evergreen respondents included 58 questions which respondents spent an average of 24 minutes answering. The instrument was pre-tested by three people, including two program alumni before submission to the institutional review process. The survey was reviewed by Evergreen's Institutional Review Board (IRB) as well as the Office of Institutional Research and Assessment (OIRA) who both requested minor changes to preserve the privacy of respondents and to protect the institution. See Appendix A for survey instrument.

Recruitment and Administration

Once fully vetted, the survey was built and administered online using Survey Monkey. A Survey Monkey web link was used to share the survey via email. Data were collected in Survey Monkey before being exported to Microsoft Excel for cleaning and analysis.

Evergreen's Office of Institutional Research and Assessment (OIRA) agreed to distribute the survey on behalf of the researcher. The sample was based on the records that were accessible remotely, given the closure of College offices by public health orders due to the COVID-19 pandemic. Initially, OIRA expected this to be students who had taken all or part of 1 to 6 quarters of Practice of Sustainable Agriculture/Organic Farming. Upon investigation, it was found to be possible to include students from 2004 through to 2021, per College records. This yielded a list of 593 students, though it is worth noting that at least one student reported taking the Practice of Sustainable Agriculture in 2002. It is unclear if this student simply misremembered or if there is a discrepancy in the College's data.

When the initial list from OIRA was cross-referenced with other campus databases it was found that 68 had incomplete contact information or had requested not to be contacted by the

College. Thus, the initial email went to 525 accounts. Of those accounts, 65 went undelivered. When OIRA sent out the second email reminder a week later, they had been able to track down 45 updated email addresses out of the 65. Thus, the final sample was 505 --though it should be noted that 45 of those in the sample received fewer communications. The researcher did not have access to respondent contact information and the OIRA did not receive responses, which went directly to the researcher's Survey Monkey data collector.

A welcome letter accompanied the initial survey request. Three follow-ups were sent with language and timing based on Dillman and colleagues (2014). There was no compensation offered for respondents that completed the survey. The survey was active from December 8th to December 29th. See Appendix B for welcome letter and Appendix C for follow-up communications.

Measurement

Portions of the survey were tailored to specific groups based on their responses in earlier portions of the survey. A respondent that had no work experience in sustainable agriculture for example was not asked about how many years of experience they had nor was a respondent who did not own or operate a farm asked about practices used on farm they owned or operated. Finally, several questions were follow-ups to previous questions, specifically for respondents that indicated they were unsure about how to answer.

Broadly speaking questions 2-9 asked respondents for information about their experience at Evergreen and in the farm program. Questions 10-36 asked for information regarding work in sustainable food and agriculture completed after the program, with questions 22-30 focusing specifically on farming and gardening. Question 37 asked about personal activities related to a just and sustainable food system while questions 38-49 examined the Program's influence on the

work and personal activities outlined previously as well as seeking feedback on the Program itself. Questions 50-57 were demographic in nature and the final question asked if respondents would like to be part of a resource list for Food and Agriculture Faculty at Evergreen.

This last question was removed from the data set immediately and was not analyzed. It was included at the request of Evergreen faculty, who often have difficulty staying in touch with alumni and past participants that are outside of their individual relationships. The survey was designed to be anonymous, though the amount of personal information provided would likely prove sufficient for someone with personal knowledge of participants to identify certain respondents. For example, owners of small farms in the area are well known to faculty and researchers.

Response

There were 148 responses to the survey – a response rate of 29%-- though once the data cleaning began, it was clear that many of the responses were incomplete. Fourteen respondents only agreed to the initial consent question and provided no further data. One respondent provided answers that can only be described as insincere[1]. That leaves 133 that provided substantial useable information, though the total number of respondents varied for most questions – see Figure 1.

[1] In response to the question A*pproximately how many years and months have you done farming or gardening work since participating in the program?* The respondent answered "a billion seconds."

The survey was designed to allow respondents to skip all questions other than the initial electronic consent and several multiple choice tables that were considered to be complicated enough that respondents may have accidentally skipped or mislabeled if not required to respond. This resulted in a decline in responses towards the end of the survey as people presumably lost interest or ran out of time. This underlines the high response rate that Perez and colleagues received to their substantially longer survey.

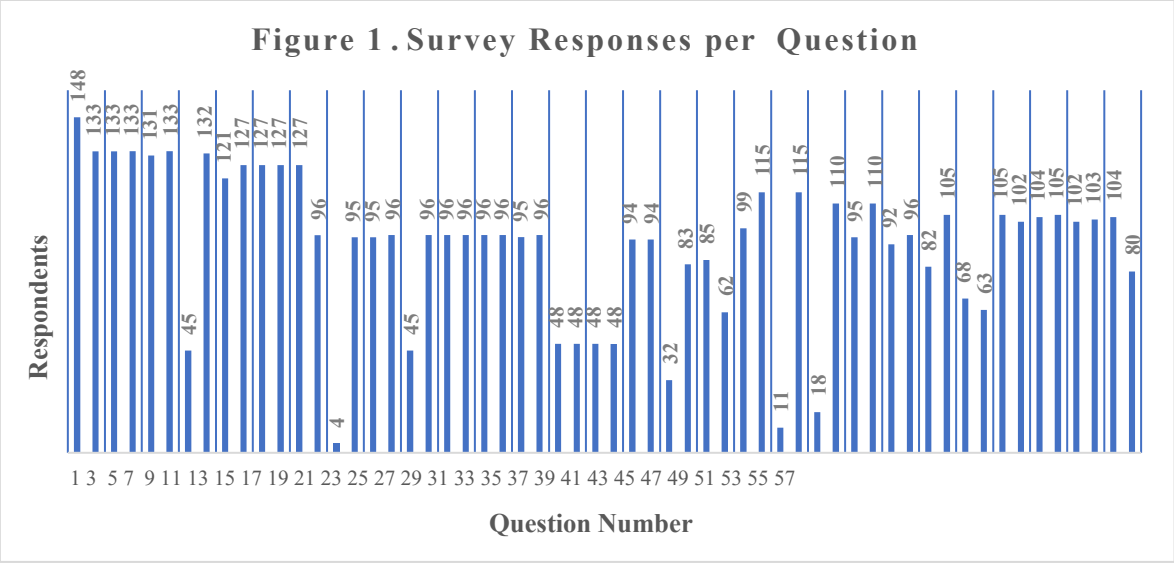
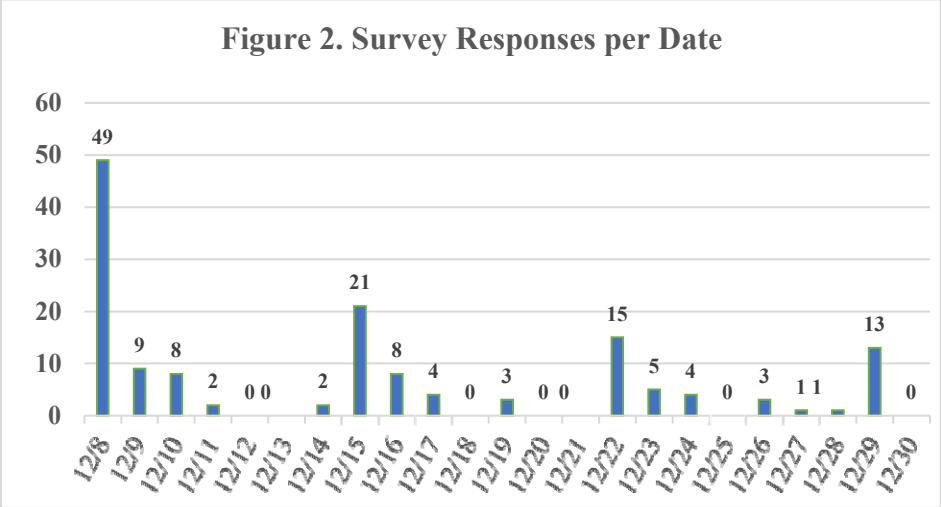


Figure 1 shows the number of responses received for each question, there are some clear clusters that seem to fall along the lines of the categories listed above. One hundred and thirty-three respondents generally provided information about their time at Evergreen. One hundred and twenty-seven provided information about their work, 96 provided information about farm and garden work, approximately 110 respondents provided feedback on the program itself, and roughly 100 people provided demographic information.

Figure 2 shows responses by date, with clear spikes when the survey went out (December 8th) and when follow-ups were sent (December 15th, 22nd, and 29th).



Analysis

Descriptive statistics were used to analyze the survey responses with the primary goal being to gain insight into the particular food system activities that past program participants engaged in. The analysis was relatively straightforward, with the principal challenge simply being the breadth of the data that respondents shared. The survey sought, and some respondents provided, information on careers, personal lives, and values from nearly two decades.

There were several subgroups of respondents that the skip-logic of the survey separated from the rest. These general clusters can be seen in Figure 2 and included those who worked on farms and gardens (95 analyzable responses) as well those who owned or operated farms and gardens (45 analyzable responses). Of these, the group that was most closely investigated was that of the owners, operators, and managers. It is assumed that these respondents were most likely to be in a position to most directly influence and control the agricultural and social practices on a farm. Thus, it seems reasonable that an examination of their practices would

provide the most accurate insight into the values that PSA/POF participants enacted when given the opportunity.

Not all questions were conducive to straightforward analysis. In order to facilitate the most comprehensive information gathering possible in this sort of survey, and to account for the broad diversity of activities that program participants engage in, several open-ended questions were included. For example, a key question asked, “What would you identify as the most significant change you personally experienced as a result of the program?” The answers to these questions were organized by theme and are used to complement and add depth to the summary statistics provided in the results section.

This survey provides meaningful insight into the food system activities of respondents and its construction facilitates comparison with results from the UCSC survey upon which it is modeled. Given the expanding understanding of evaluation and the associated support networks, this work will be useful for researchers and practitioners running future analyses of these increasingly common programs.

CHAPTER 4: RESULTS

Introduction

This chapter first presents a profile of the respondents, both demographic, and because this is an investigation of a campus project, educational. This sort of baseline information is particularly relevant in program evaluations – it is not possible to separate the broader socio-economic issues from the ultimate activities of students in the program being evaluated. As the cliché states: learning does not occur in a vacuum. Subsequently, the results of food system participation are presented, as is as a focused subset of data on owners, operators, and managers. Finally, data regarding perceived program impacts are shared.

Demographic and Educational Characteristics of Respondents

Descriptive statistics for socio-demographic characteristics of respondents are reported in Table 1. Of the 104 respondents who responded to the gender measure, 49 identified as female (47.1%), 52 identified as male (50%) and 3 (2.9%) identified as non-binary. One hundred respondents responded to the ethnicity question – all identified on some level as European-American/White. Seven (7%) also identified as people of color and one (1%) used the open answer box to write in Jewish. It is worth noting that Evergreen is an overwhelmingly white institution, but the percentage of students of color has grown from approximately 20% in 2004 (the first year that a respondent took *Practice of Sustainable Agriculture)* to just over 30% in 2020 (the final year that a respondent took *Practice of Organic Farming)* (Evergreen Enrollment Overview, 2020). It should be noted that these numbers encompass all of Evergreen's campuses and that the main campus in Olympia (where the Organic Farm is) has a lower percentage of enrolled students of color than the satellite campuses.

One hundred and two respondents provided the year of their birth, which was used to approximate their age during the program. Of these, 63 (61.8%) were between the ages of 19-25 and 26 (25.5%) were between the ages of 26-30 when taking the program. Thirteen respondents (12.7%) were over 30 when taking PSA/POF. Thirteen (12.6%) of the 103 respondents described their family's social class when they were young as upper-middle class. Fifty-four (52.4%) were from middle class families and 33 (32%) were from working class or low-income/poor families. Three respondents (2.9%) did not know the social class of their family, but zero reported belonging to a wealthy family.

Table 1. Characteristics of Survey Respondents

	Survey n	**Sample Percentage**
Gender (n = 104)		
Female	49	47.1%
Male	52	50.0%
Non-binary	3	2.9%
Ethnicity* (n= 100)		
**respondents not limited to single choice*		
African-American	1	1.0%
Asian-American/Pacific Islander	2	2.0%
European-American/White	100	100.0%
Hispanic/Latino	3	3.0%
Jewish	1	1.0%
Native American/American Indian	1	1.0%
Age During Program (n=102)		
19-25	63	61.8%
26-30	26	25.5%
31-35	6	5.9%
36-40	2	2.0%
41 and older	5	4.9%
Family Class (n=103)		
Wealthy	0	0.0%
Upper-middle class	13	12.6%
Middle class	54	52.4%
Working class	17	16.5%
Low-income/poor	16	15.5%
Don't know	3	2.9%

Prior to participating in the PSA/POF program, 16.5% of respondents had completed only high school, 62.5% had completed an A.A. or some college 11.5% already possessed college degrees, and 8.6% had completed some graduate school or a graduate degree. Judging by responses, the majority of those who had taken college course prior to program participation had taken those courses at Evergreen itself – possibly a reflection of the desirability of the program and the difficulty that first-year students had in enrolling in the program. In contrast to the student recruitment that I was party to in the closing years of my time at Evergreen, I understand that PSA/POF historically had a long waitlist, making participation as a first year student rare.

Table 2. Educational Achievement of Survey Respondents

	Yes	Percentage
Quarters completed of the Program (n=131)		
Three	88	67.2%
Two	28	21.4%
One	13	9.9%
Other	2	1.5%
Earned degree at TESC? (n = 131)	113	86.6%
Bachelor of Arts	96	73.3%
Bachelor of Science	6	4.6%
Dual-degree	15	11.5%
Degree still in progress	3	2.7%
Schooling before the Program (n=104)		
High school	17	16.5%
Some college or A.A.	65	62.5%
College graduate	12	11.5%
Some graduate school	2	1.9%
Graduate degree	7	6.7%
Additional Schooling after Program (n=104)	75	72.1%
Some college or A.A.	2	1.9%
College graduate	50	48.1%
Some graduate school	6	5.8%
Graduate degree	17	16.3%

Table 2 summarizes the educational achievements (both before and after the program) of survey respondents. Two-thirds of survey respondents (67%) completed the three academic quarters that historically represent the full program, while one-fifth (21%) completed only two quarters, and a tenth (9.9%) completed only one quarter. According to a respondent from 2009 there was at least one year in which the program consisted of only two quarters. Nearly half of respondents reported earning a college degree after their participation in the program, while 22.1% reported attending or completed graduate school after PSA/POF participation.

In addition to further academic achievements after the program, 75% of survey respondents worked in the food system at some point following their program participation. More than half (57.9%) of those with food system experience still worked in the food system at the time of the survey though a smaller number (37.9%) were actively farming or gardening in a professional capacity. Nearly the same number (54.7%) initiated or created one or more of the paid roles they held in the food system. Nearly three-quarters engaged in volunteer work associated with the food system, including serving on boards, supporting non-profits, donating produce, etc. All respondents (100%) reported participating in personal activities including shopping at farmers' markets, gardening, etc.

Food System Participation of Respondents

A major focus of this research is investigating the link between PSA/POF participation and future work on farms and gardens. Table 3 reports food system activities since program participation. Of survey respondents, 75.4% worked on a farm or garden in a paid capacity at some point following their enrollment in the program and of these nearly half (47.4%) held a managerial role. As noted above, the number of respondents *still* working on a farm or garden is far lower than those who worked in the field at some point – roughly one quarter (28.6%) vs

three quarters (75.4%). Respondents provided many comments to illustrate the hardships of making a career in agriculture, including concerns about wages and health care, availability of land, and sustainability of such a career in light of family and personal obligations.

Table 3. Food System Activities Since Program Participation (n=126)

	Yes*	No	N/A*	No Response*
Worked in Food System?	95 (75.4%)	31	-	7
Initiated or Created Role	52 (54.7%)	43	31	7
Currently Working in Food System	55 (57.9%)	40	31	7
Volunteered in Food System?	91 (72.2%)	35	-	7
Personal Activities Related to Food System?	126 (100%)	0	-	7
Worked on a Farm or Garden?	95 (75.4%)	31	-	7
Production Farm or Market Garden	76 (80.0%)	19	31	7
K-12 School Garden	10 (10.5%)	85	31	7
*College Farm or Garden (*including Evergreen*)*	20 (21.1%)	75	31	7
Urban or Community Farm or Garden	39 (41.1%)	56	31	7
Therapeutic Garden & Horticultural Therapy	14 (14.7%)	81	31	7
Demonstration Garden	15 (15.8%)	80	31	7
Education Farm or Garden (not at a school)	22 (23.2%)	73	31	7
Food or Edible Landscaping	16 (16.8%)	79	31	7
Other	21 (22.1%)	74	31	7
Operated or Managed a Farm or Garden	45 (47.4%)	50	31	7
Owned or Co-owned a Farm or Garden	30 (31.6%)	65	31	7
Currently Farming or Gardening	36 (37.9%)	59	31	7

*Only respondents that reported working in the food system were asked questions about their work. Thirty-one respondents were not asked these questions (N/A). Seven declined to answer (No Response). The denominator for percentages reported in the first column is 126, the number of respondents that answered these questions.

Of the 95 respondents that held jobs on farms and gardens, the overwhelming majority (80%) worked on a production farm or market garden. Roughly forty percent of those who worked on farms or gardens did so at an urban or community farm. Respondents also reported working on educational farms, demonstration gardens, edible landscape businesses, and hydroponics, permaculture, mushroom, agroforestry, nursery, and livestock operations.

In light of the one-fifth of respondents that worked on a farm or garden reporting working on a college or student farm, it should be noted that the PSA/POF program is designed to offer successful students paid on-campus positions after program completion. Of the twenty students that reported working on a college farm or garden, only three listed schools other than Evergreen. These schools were Bates College in Maine, Oregon State, and Washington State.

Time Period and Geography

Most respondents that reported working on farms or gardens did so in the United States, though several worked in Canada and at least one reported working in the United Kingdom, Guatemala, New Zealand, or Malawi. Respondents worked at least one job in 22 US states and one Canadian province. The vast majority (84%) reported working at least one job in Washington, with Oregon (14%) and California (13%) being the next most common.

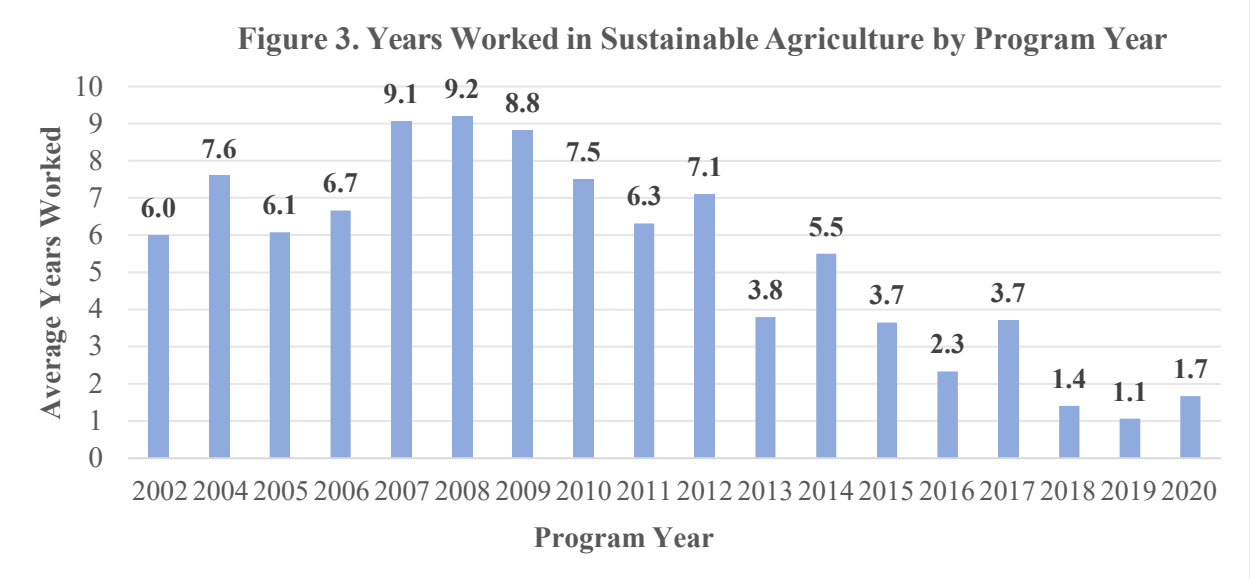


Figure 3 reports the years worked in sustainable agriculture for each reporting program cohort. The largest number of respondents would be characterized as beginning farmers by the USDA -- those who have been in the field for ten years or fewer (USDA, 2012) -- with a handful (8.4%) having worked in the field for more than a decade and one respondent reporting 25 years or work in sustainable agriculture. As one would expect, more recent cohorts of PSA/POF participants have worked fewer years in sustainable agriculture. In some respects, this must be a function of time, though it is interesting to note that the top three years were 2007, 2008, and 2009 despite responses from participants from as early as 2002. No one from the 2003 cohort responded to the survey, which explains its exclusion from the *x*-axis in Figure 3. Note that data were collected in 2020 and more than a third of respondents (37.4%) were still working in sustainable agriculture at the time.

Owners, Operators, and Managers

Owners, operators, and managers have the ability to dictate the production practices, marketing avenues, and other operational decisions that workers with less authority may not be able to influence. Understanding the decisions made by those in these positions offers a measurable reflection of their priorities and, perhaps, a reflection of the values they took from their education. Table 4 reports data from on-farm decision makers.

Table 4. Characteristics of Farms Under Supervision of Past Program Participants (Owners, Operators, and Managers)** (n=45)

	Yes*	No	N/A*	No Response*
Size of Farm				
Less than one acre	24 (53.3%)	21	36	2
1 to 4 acres	27 (60.0%)	18	36	2
5 to 9 acres	14 (31.1%)	31	36	2
10 to 19 acres	15 (33.3%	30	36	2
20 to 29 acres	4 (80.0%)	31	36	2
30 to 49 acres	4 (80.0%	31	36	2
50 to 100 acres	10 (22.2%)	35	36	2
More than 100 acres	9 (20.0%)	36	36	2
Practices Utilized				
Organic practices (not certified)	39 (86.7%)	6	36	2
Permaculture	21 (46.7%)	24	36	2
Certified Organic	13 (28.9%)	32	36	2
Biodynamic	8 (17.8%)	37	36	2
In-transition to Organic	5 (11.1%)	40	36	2
Conventional	5 (11.1%)	40	36	2
Other	2 (4.4%)	43	36	2
			36	2
Business Structure				
For-profit	45 (100%)	0	36	2
Non-profit	18 (40.0%)	27	36	2
School or College	10 (22.2%)	35	36	2
Cooperative	7 (15.6%)	38	36	2
Governmental	6 (13.3%)	39	36	2
Other	5 (11.1%)	40	36	2
Distribution Methods				
Farmers' Markets	31 (68.8%)	14	36	2
Direct to Stores or Restaurants	30 (66.7%)	15	36	2
Community Supported Agriculture (CSA)	25 (55.6%)	20	36	2
Donation	22 (48.9%)	23	36	2
Farm Stand	21 (46.7%)	24	36	2
Wholesale	20 (44.4%)	25	36	2
Farm-to-Institution	14 (31.1%)	31	36	2
Other	4 (8.9%)	41	36	2

***Only respondents that reported owning operating or managing were asked these questions. Thirty-six respondents were not asked these questions (N/A). Two declined to answer (No Response). The denominator for the percentages provided in the first column is 45, the number of respondents that answered these questions.**

****Note: Individuals often had more than one such role during their career**

The PSA/POF program teaches specific ecological farming principles and practices. The overwhelming majority of respondents (86.7%) who owned, operated, or managed a farm or garden business reported using organic practices without taking the extra steps to secure certification. Only about a quarter (28.9%) bothered to certify their operation, though several (11.1%) worked on operations that were transitioning to certified organic status. This is somewhat surprising considering how critical organic certification is to The Organic Farm – it is right in the name! Additionally, The Evergreen State College has strong ties to the WSDA Organic Program, one of the nation's oldest and most revered state certifiers. Indeed, during my time at Evergreen we hosted the Program Manager as a guest speaker every season and collaborated with her department on additional events. Note that respondents may have held ownership or leadership roles on multiple farms throughout their careers.

The Evergreen Organic Farm is small, with approximately three acres in vegetables, orchards, and pasture (The Evergreen State College, 2020). The bulk of respondents that owned, operated, or managed agricultural projects worked with similarly sized land bases. More than half (54%) of respondents farmed on less than one acre, and slightly more (60%) worked on operations of between one and four acres. On the other end of the spectrum, roughly one-fifth (22%) ran farms of between 50 and 100 acres or greater than 100 acres (20%). In the mid-range of small farms, approximately one-third of respondents (31.1%) farmed on between five to nine acres or 10 to 19 acres (33.3%).

The PSA/POF program has historically placed a strong emphasis on business planning and the skills needed to maintain profitability (The Evergreen State College, 2020). Every single respondent that worked as an owner, operator, or manager of a farm had experience in for-profit operations. Forty-percent also had experience leading production for a non-profit, while 22.2%

held leadership roles at a school or college. Smaller numbers of responding owners, operators, and managers held positions in cooperatives or with the government.

Program Contributions

A primary concern of this research is the impact that past participants in the PSA/POF program perceived the program to have had on how they engaged with the food system. Figure 3 illustrates the degree to which respondents identify the program as having an important impact on their efforts after participation. To begin with, a remarkably high number of food system jobs that participants held after the program (85.5%) involved growing with organic or sustainable practices.

Keeping in mind that more than half of respondents reported initiating or creating a position they held, that the overwhelming majority worked in Washington State, and that more than half worked in educational or "train-the-trainer" programs, it is clear that this program has positively contributed to the amount of sustainable agricultural work occurring in the state. Indeed, almost all respondents (95%), including those that had no professional engagement with the food system, reported that the program contributed to the sustainability efforts they were involved in.

It seems likely that the program's reputation and position within the field of sustainable agriculture draws in students that are interested in learning and implementing such practices, but the fact that participants point so frequently to the program's impacts is telling. A 2004 participant who is currently farming stated succinctly, "This program was an essential part of my education to become a farmer." A more expansive account comes from a 2019 program participant:

"POF changed my life for the better. I feel so lucky to have participated, especially knowing how unique and uncommon it is. I wish more people had access to an experience like this that could help them discover the beauty of growing food."

Figure 4: Contribution of Learning Outcomes to Food System Activities

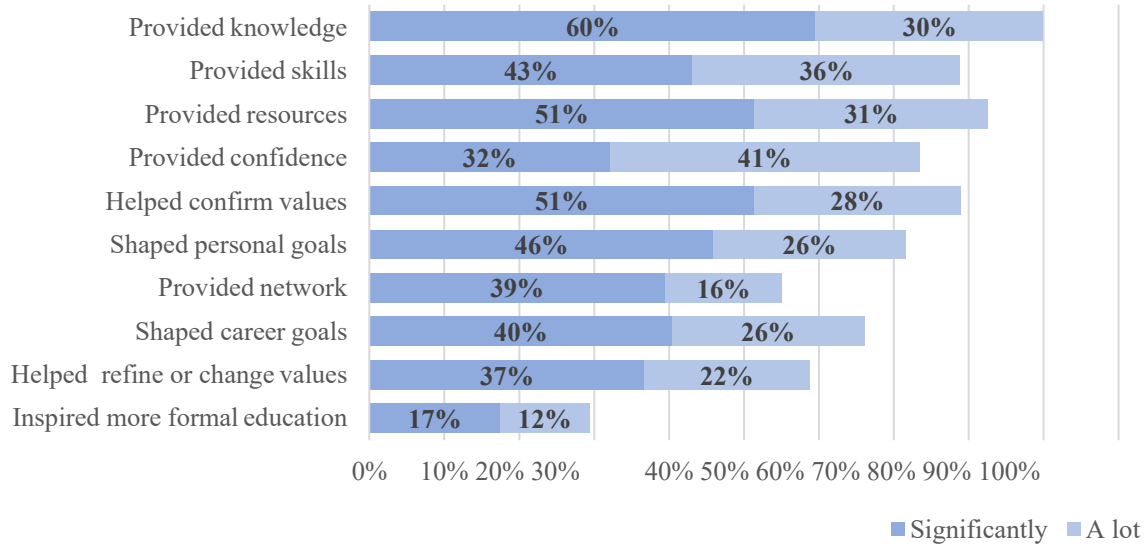


Figure 4 illustrates the percentages of respondents who indicated the corresponding learning outcomes contributed "significantly" or "a lot" – the top two points on a five-point Likert scale – to their future food system activities. Over seventy-percent of respondents indicated that the knowledge, skills, resources, and confidence they gained during PSA/POF made an important contribution to their future activities in the food system. Nearly the same numbers reported that the program helped them craft the trajectory of their work through the shaping of goals and confirming of values -- these are substantial percentages that outline the perceived impact of the program. Note that Figure 4 is organized in the same order as a similar figure that Perez and colleagues produced in their 2010 investigation (Perez et al., 2010), rather than in order from most perceived impact to least. This is to facilitate a comparison between the two figures.

Sustainability Practices

Table 5. Sustainability Practices Implemented by Respondents (n=113)

	Yes	No	N/A	N/R
Practices that promote soil quality and health	111 (98.2%)	2	-	20
Non-use of chemicals	109 (96.4%)	4	-	20
Implementation of biological diversity	106 (93.8%)	7	-	20
Physical, cultural and biological controls for pest and disease management	104 (92.0%)	9	-	20
Use of approved organic inputs	103 (91.1%)	10	-	20
Water conservation practices	101 (89.4%)	12	-	20
Improve nutrient cycling	95 (84.1%)	18	-	20
Systems approach when solving problems	94 (83.2%)	19	-	20
Other environmental sustainability practices	89 (78.8%)	24	-	20
Improve energy efficiency	84 (74.3%)	29	-	20
Integration of crops with animals	54 (47.8%)	79	-	20
Use of green energy sources	44 (38.9%)	89	-	20
Organic certification	22 (19.5%)	91	-	20

Table 5 provides a summary of sustainable practices that program participants report implementing in their professional, volunteer, or personal activities. The percentage of uptake for survey respondents is incredibly strong for practices most strongly and historically linked to sustainable agriculture: care for the soil (98.2%), resistance to chemical usage (96.5%), preservation of biological diversity (93.8%), integrated pest management (92.0%), and water conservation (89.3%).

In addition to the impact the program is perceived to have had on participants' decisions around conservation and sustainability, the dramatic difference between the number of participants that report using typically more expensive organic products (91.5%) versus those that report securing organic certification for land they managed (19.5%) stands out (see Table 5). The Evergreen Organic Farm has been certified organic since 2000, covering the entire survey period (WSDA, 2021). Participants learn sustainable practices and principles and implement them in large numbers, but do not imitate the farm that trained them in the practice of certification.

Equity Practices

Table 6. Equity Practices Implemented by Program Participants (n=113)

	Yes	No	N/A	N/R
Increase access to healthy food and healthy food products for those with limited access	83 (73.5%)	30	-	20
Increase inclusion, irrespective of ethnicity, class, gender, sexual preference, age	80 (70.8%)	33	-	20
Address inequities in access to information	63 (55.8%)	50	-	20
Other activities aimed at confronting inequity and advancing justice in the food & agriculture system	62 (54.9%)	51	-	20
Foster sharing of power or ownership	60 (53.1%)	53	-	20
Increase income of small and mid-scale growers	59 (52.2%)	54	-	20
Address inequities in access to resources	55 (48.7%)	58	-	20
Participate in food justice organizations	55 (48.7%)	58	-	20
Provide safer work conditions for workers	50 (44.3%)	63	-	20
Increase income of workers in the food system	38 (33.6%)	75	-	20

The explicit inclusion of equity education has increased through the years in the program. A student from 2008 said, “This really wasn’t part of the program when I attended.” The Evergreen State College hired a faculty member specializing in food justice in 2018. Despite a dearth of formal inclusion in the curriculum for much of the survey period, program participants reported high levels of implementation of the surveyed practices, as displayed in Table 6. Nearly three-quarters (74%) of those who responded indicated that they had taken actions to increase food access and increase inclusion in the food system.

Business planning and development has been a key curricular focus for the last several years. Indeed, the principal deliverable for the final quarter of the program has been a business plan for a prospective farm. In light of this focus, it is noteworthy that more than half (53%) took steps to share power and ownership in the food system.

Greater than half (55.8%) of respondents reported engaging in practices that address inequities in access to information. This encompasses educational activities, training programs, and efforts to communicate research in an accessible manner. It also includes language justice efforts to ensure that material is presented in understandable ways to the audience.

Overall, approximately 60% (55) of those who provided responses regarding their perception of the social justice education components of the program indicated that these experiences provided them with new insights. More than 40% (39) indicated that they wished there had been more of a focus on this aspect of the curriculum, while just under 10% (9) wished there had been less of a focus on these issues. Several students noted that the relative lack of diversity in the program make-up made it harder to truly engage in the conversation. A student from 2011 provided a terse summary of the experience others shared: “We were in such a white-Washington-bubble of well-educated and resourced hippies. It used to drive me up the wall.” At

the same time, other participants noted that despite a lack of racial and ethnic diversity, the varied life experiences of those in the program offered valuable learning opportunities. A student from 2012 shared, “Our alumni wasn't a very diverse group ethnically, but definitely different socioeconomically. This allowed diverse, challenging, and intellectually stimulating dialogue to develop as our relationships grew and the subject matters became more in depth.”

Summary

Respondents to the survey were remarkably involved in the food system in personal or professional capacities. They implanted practices that they were taught specifically through the curriculum –sustainable growing techniques—as well as practices that they learned through less formal means through their time in the program and at Evergreen, including equity and social justice practices. Students offered critiques of the program, but respondents were generally positive, with some even using their response as an opportunity to advocate for the preservation of the program in light of the well-publicized budgetary challenges at The Evergreen State College. The Practice of Sustainable Agriculture/Practice of Organic Farming program exists as part of the larger Evergreen curriculum but it very clearly produces both farmers and food citizens in high numbers.

CHAPTER 5: DISCUSSION AND CONCLUSIONS

The goal of this project was to evaluate the impacts of the Practice of Sustainable Agriculture/Practice of Organic Farming (PSA/POF) program on students using a survey that investigates how alumni have applied their education in the program since participation. The program has a strong focus on the technical skills needed to successfully grow food in the Pacific Northwest. It also includes an emphasis on community and a growing awareness of questions of equity and food justice. The survey examined the activities of alumni since participating in the program through the lens of food producers and food citizens (Hoover and MacDonald, 2017).

On the average, the results show that survey respondents are both food producers and food citizens, which is consistent with expectations based on the unique attributes of the PSA/POF program. This chapter will provide a summary and discussion of survey results, limitations, and implications for future research. In addition, comparisons will be made between results of the present study and that of the study by researchers at the University of California Santa Cruz' (UCSC) Center for Agroecology and Sustainable Food Systems (CASFS).

Food System Engagement

Results from this research show extremely high participation of survey respondents in the food system. Every single respondent indicated, at minimum, a personal level of involvement in the food system. This personal involvement took the shape for some of maintaining a home garden or purchasing food from local growers, for some it involved educating friends and neighbors about sustainable agriculture, and for others it took the shape of political and financial support of groups working to advance sustainable agriculture and food justice goals. Of course, those who took the time to answer the survey likely have a personal stake in sustainable agriculture and were thus motivated to participate; furthermore, it is likely that students who

were drawn to enroll in PSA/POF were already interested in these kinds of activities. Yet it is striking that every last respondent indicated a personal level of involvement and many listed dozens of activities they were engaged in. Similarly, in the UCSC study 99% of respondents similarly reported using what they were taught in the apprenticeship in their personal lives (Perez and Brown, 2010). This finding emphasizes the deeply personal and immersive nature of this kind of farming program, which is arguably unique amongst academic programs – how many literature programs can point to past participants preaching the power of Tolstoy and insisting on only purchasing from independent booksellers?

Both the current research and the UCSC survey included a particular focus on professional roles. A food system job, in the context of this research, is understood to be either a paid, self-employed, or start-up position, and is contrasted with the unpaid personal activities discussed above. An impressive 75% of respondents reported holding one or more jobs in the food system since their participation in PSA/POF, with each of these boasting at least one paying farm or garden job on their resume. The number becomes more impressive when considering that respondents from the most recent cohort years were likely to still be studying when they answered the survey. Removing those respondents that explicitly indicated they were still studying would boost the total to 80% and would still likely miss some respondents that were in school but did not explicitly state this.

Not all of these positions were equivalent – one respondent's food system work was limited to an internal student position at Evergreen—but nearly half (44%) were still working in the food system, some with a decade or more of experience. In the UCSC study, 87% of survey respondents reported working in the food system (Perez and Brown, 2010). For future context, a

2010 investigation from the Federal Reserve Bank of New York found that only 27% of graduates generally worked in a field related to their major (Abel and Dietz, 2014).

The connection between training and employment that these farm programs boast is much higher than standard, traditional academic programs. There are likely several explanations for this. First, students in these programs are particularly are motivated and passionate. Both PSA/POF and UCSC'S Apprenticeship in Ecological Horticulture (AEH) require large time commitments, well beyond a typical academic schedule. As a reminder, for most of the study period PSA/POF ran for a full academic year (including the summer term) and included roughly 500 hours of work experience and hands-on training, coupled with lectures, labs, field trips, seminars, and research projects.

The AEH was an even more involved residential program, encompassing 700 hours of in-field training and 300 hours of classroom time over a six-month period. Those with only a passing interest in sustainable agriculture may have been filtered out based on the dedication required. Secondly, both these programs frame themselves as places that future producers can receive training and support. As shown in Figure 2 in Chapter 4, PSA/POF program participants pointed to the skills they received as the most useful aspect of their experience. The numbers were similar at UCSC.

Third, and perhaps most troubling, entry-level food systems jobs are typically low paying and physically taxing. In many cases, these jobs are not highly sought after and competition is likely to be low, making it easier for an interested program alumnus to secure a position in their field. Still, these are the jobs that participants in all campus agricultural projects (CAPs) are vying for and a limited national survey of CAPs found that only two-thirds of listed project

contacts knew at least one program participant working in the food system (Hoover and MacDonald, 2017).

Leadership in the Food System

The data reveal that PSA/POF program participants are not only engaged food citizens, they are in many cases leaders in the food system. Forty-five respondents (36%) currently or previously held a critical leadership role as an owner, operator, or manager of a farm or market garden. Fifty-two (41%) reported initiating or creating a job in the food system. This points to the leadership role that many program participants have taken in the food system since the PSA/POF program. This impact is largely geographically centered in Washington State, though respondents reported working throughout the United States and in Canada. Sustainable agriculture in Washington State owes much to Evergreen's program (Bramwell et al., 2011), a fact that helps explain the small college's frequent inclusion in national lists of top college farms in the US. In some ways, this is a surprising position for a liberal arts institution to hold. It will be interesting to see if, over time, the growing organic and sustainable agriculture program at Washington's land grant university, Washington State University, will have a similar influence. Once the program has a sufficient track record, it would be well advised to apply a similar survey to graduates of its program.

Sustainable Agriculture

Evergreen and CASFS explicitly teach sustainable and organic agricultural practices. It is noteworthy how many PSA/POF program participants reported using sustainable and organic practices in their own agricultural endeavors. Ninety-eight percent of respondents identified at least one sustainable agriculture practice they implemented in their farms and gardens; most indicated the number was much higher. Perhaps equally noteworthy is the small number of

responding farm owners or operators who reported working on conventional operations in their careers (11%) and the fact that each of these farmers also reported working for organic operations. Several took pains to underline their sustainable agriculture credentials. A 2012 participant stated, “I've started sustainable ag[riculture] related projects at any job I've had.”

Nearly all respondents reported using organic practices but only twenty percent took the extra steps to certify their operations. This is surprising considering how critical organic certification is to the Evergreen Organic Farm. Not only is it part of the name, but use of organic practices was explicitly outlined in the initial proposal to College leadership when the Evergreen Organic Farm was established in the 1970’s. Evergreen has strong ties to the WSDA Organic Program, one of the nation’s oldest and most revered state certifiers, which has been led by a Greener (an alumnus of Evergreen) for thirty of the last thirty-three years. The WSDA Organic Program Manager is a frequent guest speaker and her department has collaborated with the Evergreen Organic Farm on special events promoting organic certification. Finally, the mechanics of organic certification, often identified as a barrier to certification, is a robust part of the classroom and field curriculum in PSA/POF.

The reasons not to pursue organic certification include, in addition to the process of certification, the financial cost of fees and recordkeeping and the effort involved in managing the relationship with the certifying agency (Veldstra, 2014). Certified organic produce typically commands a higher price than conventional produce of similar quality, though those operations that market directly to consumers are able to share their production practices with customers and this can help them secure prices equal to or greater than the certified organic market (Onozaka and Thilmany McFadden, 2011). This is a phenomenon that is widespread in small-scale agriculture and it would be interesting to further investigate the choices made by PSA/POF

producers in light of their unique educational backgrounds. One final interesting note is that more respondents report purchasing organic food than report certifying their own operations.

Program Perceptions and Impacts

Overall, respondents gave positive feedback about their experience in the PSA/POF program. Roughly three-quarters indicated that the program played a key role in their future personal and professional activities. A student from 2015 shared, "The [PSA/POF] program was everything for me. I had very little prior experience with any of the concepts of sustainability in food and agriculture. It allowed me to bring those skills to the places I lived and worked." This is consistent with reactions to the CASFS Apprenticeship, for which greater than 80% of respondents reported significant impacts on their future activities.

Close to ninety percent of PSA/POF respondents reported being able to partially or fully engage in the work they hoped to upon leaving the program. This is an amazing result. However, many reported barriers that forced them to modify their intended engagement with the food system. Greater than 15% and 25% respectively, indicated that physical or financial limitations influenced their ability to secure the job they wanted. As a participant from 2008 put it "It turns out you can't save up a down payment for a large piece of land by working for minimum wage and free vegetables on an Organic farm." The deadpan humor is appreciated, but this is a serious issue for beginning farmers and ranchers throughout the country, particularly in the largely more expensive and politically progressive locations that have historically hosted alternative agriculture educational programs, such as Santa Cruz and Western Washington.

Unfortunately, the PSA/POF program was not a universally positive experience for students. Some cited a lack of curricular or operational organization as a limiting factor in their growth. Others pointed to conflicts with the personalities involved, either within their student

cohort or with faculty or staff. Disturbingly, a respondent reported they were assaulted by a fellow member of the program, but no further details were given. CASFS has also dealt with issues in the apprenticeship, including allegations of sexual assault by an apprentice. It is disappointing, though perhaps not shocking, that two such well-respected programs have at least one instance of reported abuse.

A critical component of program evaluation must be to ask, not just is the program working, but *who* is the program working for? Evidence from the current research suggests that the program works quite well for many students, but this is not a universal experience. It is important to remember that despite what seem to be the best of intentions and motivations, these programs are not immune from either institutionalized systems of oppression or the individual crimes of bad actors. This may be one of the reasons that in 2019 the process of reimagining the CASFS Apprenticeship was begun. The pandemic increased the timescale of the re-envisioning, but it was recently announced that the UCSC apprenticeship will now be a 10-week residential program running twice per year (UCSC, 2021).

Program Goals

Evergreen's Organic Farm program seems to have had success in developing students as farmers and as food citizens. Some important cautions emerged, including the frequent organizational limitations of the program, but these are issues that Evergreen as a whole is wrestling with as it tries to move forward and maintain relevance in the modern post-secondary educational world. Perhaps PSA/POF is uniquely impacted by this or perhaps it is an inherent condition of Evergreen's flexible curriculum. The most impactful aspects of both programs appear to be the hands-on and community aspects. Interestingly, both programs have taken steps in recent years to reduce the amount of community activities.

This investigation and the research that it was based on have largely found that the programs are doing what they were intended to do. Hundreds of program participants have received training on the techniques and skills needed to practice small-scale sustainable agriculture and remarkably high percentages have secured work in their desired field. The question must be asked: is landing these jobs the desired outcome for students leaving campus agricultural projects? If not, what is?

The current moment requires a much larger group of educated food citizens. As one of humanity's principal activities, agriculture is a primary contributor to global greenhouse gas emissions (Barlett, 2011). The path to change requires more and more people to understand where their food comes from and how it might be produced in a sustainable fashion. Even better, large numbers of citizens could be empowered through an understanding of producing even a small portion of their own food. The generation of Greta Thunberg is coming of age and entering colleges and universities – they will continue to demand access to hands-on agricultural education.

Campus agricultural projects are likely to continue to grow in number and popularity as students seek a connection to their food. It is incumbent upon campus leaders to evaluate the programs connected to these CAPs to identify if they are meeting stakeholder goals. It is clear from this research and that of Perez and colleagues at UCSC, that there is always room for improvement even (and perhaps especially) in long-standing programs such as Evergreen's.

Suggestions for improvement

Though not formally analyzed and presented in the results section of this paper, the survey did gather valuable feedback on student perceptions of the program and suggestions for

improvement. Below are a few themes that surfaced repeatedly and would be well worth considering for program leadership, both at Evergreen and at other institutions.

O*rganization and Flexibility*

The desire for greater organization and structure to the program was a commonly cited refrain. Given Evergreen's heterodox pedagogy, there is a constant possibility that infinite creativity and freedom can manifest as a lack of organization and chaos. Responses referenced the, at times, unstable leadership structure – was the program being run by a new faculty member, the Farm Manager, a team of faculty that had never worked together before? For most of the study period, the program was led by a non-rotating faculty member in collaboration with farm staff. This seemed to benefit students, but faculty and staff burnout was a real concern. Studies point to a stable and competent farm staff as a key to successful student farms (Ratasky, 2013) and retaining good staff is, by extension, an important contributor to long-term success.

However, students are attracted to Evergreen specifically because of its unique pedagogy, which allows them to be co-creators of their own learning. On a farm, this flexibility allows the curriculum to conform to the changing seasons and to the unique interests and contributions of a diverse student body. It would be a shame to lose this rare resource in the name of structure and organization. Where is the balance to be found?

Based on the feedback gathered through this survey and my personal experience, I would suggest that staff be given responsibility over a more structured internship component of the program, thereby establishing a stable and consistent base from which more creative intellectual avenues could be pursued by faculty members.

The Power of Community

One of the most persistent themes that surfaced in response to questions about this rigorous academic program was something that is not always considered academic – the importance of interpersonal connection. Repeatedly, students credited what could be described as the interstitial program activities as critical to their success. The time spent preparing for a potluck or staying up talking on an overnight field trip were certainly part of the curriculum, but not in a formal or prescribed way. These moments of tantamount importance to many students took place between and around the more formal course elements of lectures, labs, and farm visits. Yet, these connections between students, faculty, and staff were responsible for some of the most profound moments that respondents shared.

In the modern academic environment, it is becoming more and more difficult to create space for these moments. Students have increasing demands for their time and institutions are ceaselessly wary of liability and they risks inherent in communal living and working. Part of the reimagining of UCSC's apprenticeship includes a step away from the long-term residential component that was previously central to the experience, towards a shorter-term program. In my time at the Evergreen Organic Farm, we largely stopped hosting potlucks as a weekly event because of the perception that they took away from other activities that needed to happen in the program. It is hard to know if that was the correct decision or not, but it is certainly one that should be reevaluated in light of the results of this research. The idea of a community of practice –often touted at Evergreen – is one that is easy to contemplate and imagine, but is often complicated to operationalize. Feedback from respondents to this survey suggest that the results are well worth the effort.

Limitations of the Research

Limitations inherent to this research must be acknowledged. First, survey participants were recruited via email, and this presented a few problems. Some of those on the preliminary list had requested not to be contacted, and were thus removed from the sample. Some of the initial emails bounced back; staff were able to find updated contact info for some, but not all of these individuals. It is very possible that past participants for whom email addresses were old or outdated (but did not bounce back) will never have seen the survey.

Second, there is the question of nonresponse bias, as 148 out of 505 (29%) program participants who had working emails elected to complete the survey. Though this is a fairly good response rate in today's world of survey research, one must wonder if the differences between those who did and did not respond to the survey are great enough to distort results. The themes of this survey are likely to be particularly salient to past participants that had particularly good or bad experiences in the program. For example, students that were inspired by the program and felt that it changed their lives for the better may feel a sense of gratitude that motivated them to respond to the survey.

Further, the framing of the both the survey instrument and the communications between the researcher and the members of the sample centered on the food system activities one had completed after the program. Those that did not consider food system activities to be a meaningful part of their lives could easily have felt that they were not the target audience and elected not to respond. On the other hand, those who are particularly invested in sustainable agriculture, whether that be personally or professionally, may have been more inclined to respond. Thus, the findings cannot be generalized to all program participants during the study period, and should not be considered representative of program participants outside of the study

years. Instead, the results present information about the survey respondents, all of whom completed the PSA/POF program at Evergreen between the years of 2002 and 2021.

Third, given the length of the study period (nearly 20 years), some respondents were asked to report on experiences they may not recall clearly or at all. This was particularly evident when the questions were specific in nature – when asking for the name of a key faculty or staff member, for example. Due to the time lapse and related impacts, it is possible that participants from recent years were able to relate their experiences in the program with more accuracy and in detail, though the overall impressions any participant had of the program would still be of interest.

Finally, my personal involvement in the study was likely both a benefit and a hindrance in two facets – the reaction that respondents might have to me personally and the reaction that I surely had to the data. I made sure to mention in the survey welcome letter that I was the former Organic Farm Manager, both because I felt it was important to disclose and because I believed that it would help to establish my credibility and inspire a greater degree of response. All respondents would have been aware of my connection to the program.

I worked at Evergreen during a portion of the survey period (2016-2019). Participants from this time period may have been influenced to respond (or not) based on their feelings about me as an individual. Respondents' answers could have been skewed in a more positive light in order to avoid hurting my feelings or perhaps uncomfortable topics could have been elided, despite the anonymous nature of the survey.

As a lifelong farmer-educator, it is impossible for me to view the data without bias. I believe very strongly in the value of programs like PSA/POF and this belief likely influenced my analysis of the data, making the positive responses stand out above the negative responses. At

times, my lived experience might help me better understand the context of a response, but it inevitably colors my interpretation of the data.

Future Research

This research is a small piece of a much bigger effort to expand program evaluation in agricultural projects throughout the country. Thanks in large part to the work of Jan Perez and colleagues at GREW (GREW 2021), there are more tools available for this kind of program evaluation than ever before. This reduces some of the many barriers preventing more programs from engaging in similar work. The data does not seem to point to an end to the growth of campus agricultural projects across the country. As these programs stabilize and mature, program evaluation will be a critical tool for stakeholders to understand if their efforts are achieving the desired ends.

In light of the findings at Evergreen, it would be extremely interesting to understand more about the dynamics that inspire participants to utilize organic farming practices without securing organic certification, which can open new markets and yield higher prices. As the program seems to be at an inflection point when land values are so high that developing a sustainable agriculture business is more and more difficult and the program bends towards the training of food citizens, faculty members would benefit from asking the question: how do we want to teach food citizens in the next decade? For students, it is important to ask, what do I want out of my agricultural education?

In order to understand the farm program in a broader campus context at Evergreen, it would be valuable to attempt to quantify the impact that the Organic Farm – and the PSA/POF program that sustains it — has on the college application process. Are students living through the impacts of climate change more interested in sustainable agriculture than previous generations?

To what extent does this drive their decision-making? Many colleges funnel extensive resources to athletics departments as indirect marketing arms of the institution – to what extent can campus agricultural projects serve the same role?

How can we quantify the value of CAPs for students? If a student wants to learn to farm, would they be better off working on a farm than paying thousands of dollars for a degree in agriculture (or in the case of 13% of respondents, no degree)? Analysis of successful farms in a geographic area, such as Thurston County (where Evergreen is located), would be valuable to cross reference with this study to provide context to the number of farms that have come out of the PSA/POF program compared to farms that did not.

Once the new UCSC program has stabilized and established itself, it would be fascinating to survey program alumni to attempt to quantify the differences between the 6-month program and a 10-week adaptation. Equally, it would be extremely valuable for Washington State University, as the first university in the US to offer an organic agriculture degree program, to conduct a survey of graduates of this groundbreaking program. What similarities and differences might be discovered between the immersive, hands-on programs at Evergreen and UCSC the more traditional pedagogical structure at a land-grant university?

Conclusion

The Evergreen Organic Farm has been producing outstanding food producers and food citizens for close to forty years. The evidence shows that respondents overwhelmingly credit the program with positive contributions to their food system activities, their work, and their educational experience writ large. The PSA/POF program has areas that it can improve and I hope to see the program continue to grow as it nurtures the next forty years of future farmers, gardeners, activists, and informed community members. Further, I hope that this research can be

useful to those who are working on campus agricultural projects throughout the country, not just at the beautiful Evergreen State College.

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Appendices

Appendix A: Consent Form & Survey Instrument

Evergreen Organic Farm Participant Survey

Thank you for taking this survey, which assesses the impacts of the Practice of Sustainable Agriculture and Practice of Organic Farming (PSA/POF) Programs at The Evergreen State College Organic Farm.

This survey has three sections.

The first, and most comprehensive section, explores what students have done after the Organic Farm to help create a more sustainable food system through their work, volunteer, and personal activities. We also explore the extent to which you believe the PSA/POF Program contributed to these efforts. This section accounts for about 3/4 of the survey. The results will provide important information to Evergreen faculty, staff, and administration to help better meet the needs of future students. Additionally, the results will help other college farm programs to better understand their impact.

The second section explores how the PSA/POF program can be improved. Of course, every program at Evergreen is unique, but the farm program has had a lot of consistency over the years. Getting feedback from people who have attempted to implement what they learned is a valuable addition to the post-course evaluations. This information will also help us better meet the needs of future students.

The third, and very brief section, asks for some basic demographic information.

This survey takes around 25 minutes on average to complete. The amount of time depended on the amount of work experience and the extent of feedback people had to offer. You may stop and return to the survey at any time prior to its close on [Date to be determined]. Your participation in this study is voluntary and you have the ability to withdraw at any point without penalty or loss of compensation If you wish to discontinue your participation at any point you may do so by simply closing the survey. Your answers will remain confidential.

Reports to faculty and others will not connect your name or any other unique identifying information to your resopnses. Data will be kept in a secure, password-protected location by the researcher when the survey is complete.

If you have any questions or concerns, please contact Connor Murphy at connor.x.murphy@evergreen.edu or 707-535-3702. You are encouraged to contact The Evergreen State College Human Subjects Research Committee irb@evergreen.edu if you have additional ethical or privacy concerns that the research is not able to answer.

Thank you again for your time and effort! If you've had extensive work experience in the sustainable food and agriculture system, you may want to pull up a resume before you start.

Thank you,
Connor Murphy

I consent to participate in this study about the Practice of Sustainable Agriculture and Practice of Organic Farming Programs at The Evergreen State College Organic Farm. I understand that I will be asked to answer questions about my job history, volunteer history, and demographic information in an online survey. I understand that I will be asked to share specific information about where I have worked and volunteered and that this information, together with my demographic information, could be used to deduce my identity. I understand that data will only be shared in an aggregated form to prevent this. I understand that I may stop my involvement in the study at any time and for any reason without penalty. I understand that I may decline to answer any question asked of me, and that by doing so I will not be required to terminate my involvement in the study.

AGREE:_____ DISAGREE: _____

When did you take the Practice of Sustainable Agriculture/ Practice of Organic Farming?

	What year did you first attend the Program?	How many quarters did you complete?
.		

Which faculty members were involved in the program when you took it? (don't worry about spelling)

Which farm staff members were involved in the program when you took it? (don't worry about spelling)

In addition to PSA/POF did you complete additional work (Farm Aide, internship, ILC) on the Farm?

Yes ○ No ○ Unsure ○

If yes, please briefly describe the type of additional work and the corresponding time period (s):

For example, Farm Aide for three quarters, internship for one quarter, 4 credit ILC focused on herbal medicine, ILC + Farm Aide, etc.

Did you complete a bachelor's degree at Evergreen?

Yes ○ No ○ Unsure ○

If yes, which degree did you earn?

BA ○ BS ○ Dual-Degree (BA/BS) ○ Unsure ○

We are interested in learning about the work, volunteer activities, and personal efforts you've done that have contributed to creating a more sustainable food & agriculture system. We will ask a series of questions about all the activities you've done in these areas after completing at least one quarter of the Program.

Since participating in PSA/POF. . . .

1. Have you done any work (paid, self-employed or start-up*) in the sustainable food and agriculture system?

For example, this includes starting a farm that uses sustainable methods, working for an organic seed company, working for a food security organization, etc.

* We are defining *'start-up'* as work that may not have been paid, but your intention was to get it funded eventually.

Yes No Unsure

1a. Have you incorporated activities related to creating sustainable food and agriculture into paid work that otherwise would not have been included these jobs?

For example, this includes a chef who is committed to buying local, an elementary school teacher who incorporates food sustainability issues into the curriculum, etc.

Yes No Unsure

1b. Have you done any volunteer activities that are related to creating a more sustainable food and agriculture system?

For example, have you donated time at a food bank, organized neighborhood gleaning, served on a sustainability related non-profit board of directors, etc.

Yes No Unsure

1c. Have you done any personal activities that are related to creating a more sustainable food and agriculture system?

For example, have you done things like buying organic or local, growing food in your backyard, encouraging friends to grow food without pesticides, helping people start personal gardens, etc.

Yes No Unsure

Now we will ask some questions regarding your work experience (paid, self-employed or start-up) in the field of sustainable food and agriculture systems.

A. Please list the work (paid, self-employed or start-up) you've done in the sustainable food and agriculture system field since participating in the Program.

Please list your role (formal or informal) and the organization/business name (or organization type). Here are some examples:

* Self-employed as business partner in market garden
* School Garden Manager, East Lake Elementary School
* Agriculture Program Leader, Cooperative Extension
* Organic garden and orchard care for a few clients/people

Most recent job	
Job 2	
Job 3	
Job 4	
Job 5	
Job 6	
Job 7	
Job 8	
Job 9	
Job 10	

Aa. If you've had more than 10 jobs, how many more have you had?

A1. Please list the locations where you've done these jobs.

	Countries List all that apply	States List all that apply
.		

A2. A*pproximately* how many years and months have you spent doing these sustainable food and agriculture related jobs?

Years

Months

A3. Did you initiate, create, or start any of these jobs or efforts?

Yes No Unsure

A4. If yes or unsure, please explain.

A5. Please answer the following questions about your work after the Program.

	Are you currently doing this		Did any of these jobs involve farming, gardening or growing food with organic or sustainable methods? job?	
	Yes	No	Yes	No
Job role and org 1	○	○	○	○
Job role and org 2	○	○	○	○
Job role and org 3	○	○	○	○
Job role and org 4	○	○	○	○

A6. What types of farms or gardens have you worked on since taking the program? (choose all that apply)

- ☐ Production farm /market garden
- ☐ K-12 School garden
- ☐ College farm or garden
- ☐ Urban or community farm /garden
- ☐ Therapeutic garden / horticultural therapy
- ☐ Demonstration garden
- ☐ Educational farm / garden (not on a school campus)
- ☐ Other
- ☐ Food or edible landscaping business

A7. Please list all the locations where you've done farming and gardening work after PSA/POF.

Countries where farmed or gardened List all that apply	States where farmed or gardened List all that apply	Areas where farmed or gardened (choose all that apply)		
		Urban (within city or town limits)	Peri-urban (just outside of city or town limits)	Rural
		☐	☐	☐

A8. What size farms (harvested acres) have you worked on since taking the program? (choose all that apply)

- ☐ Less than an acre
- ☐ 1 to 4 acres
- ☐ 5 to 9 acres
- ☐ 10 to 19 acres
- ☐ 20 to 29 acres
- ☐ 30 to 49 acres
- ☐ 50 to 69 acres
- ☐ 70 to 99 acres
- ☐ 100 to 139 acres
- ☐ 140 to 179
- ☐ 180 or more
- ☐ Comments:

A9. In what type of business structures have you done your farming or gardening work after PSA/POF? (choose all that apply)

- ☐ For-profit business
- ☐ Non-profit organization
- ☐ Government organization
- ☐ Co-operative
- ☐ School or college
- ☐ Other

A10. Approximately how many years and months have you done *farming or gardening work* since participating in the program?

Years

Months

A11. Did you own, co-own, operate or manage any of the farms or gardens you have referred to above?

Yes No Unsure

A12. Which of these roles have you had on any of the farms or gardens you have referred to above? (choose all that apply)

Owned (include co-owned) Operated / Managed

A13. For the farms you owned, operated, or managed, what methods have you used? (choose all that apply)

- Certified organic
- In transition to certified organic
- Biodynamic
- Organic but not certified
- Permaculture
- Conventional
- Other:

A14. For the farms you owned, operated or managed, what distribution strategies did you use? (choose all that apply)

- Community Supported Agriculture
- Farmers' markets
- Farm-to-institution
- Farm stand
- Wholesale
- Direct sales to stores and restaraunts
- Donation (i.e., to foodbank, gleening, etc.)
- Other:

A15. For the farms you owned, operated or managed, what have been the primary crops? (choose all that apply)

- [ ] Mixed vegetable / fruit
- [ ] Grain production
- [ ] Orchards
- [ ] Selected vegetable production (just a couple)
- [ ] Animal production
- [ ] Flower production
- [ ] Animal products (dairy, eggs, etc.)
- [ ] Other:

A16. Did any of the work you've listed include education programs or activities as part of their formal goals?

Yes No Unsure

A16a. Have any of your jobs or work efforts involved training future teachers or trainers of sustainable food and agriculture system related topics?

Yes No Unsure

A17. Did any of your work include other primary or formal goals related to creating more sustainable food and agriculture systems, besides farming and education goals?

For example, such goals might include: lobbying for organic policy, creating alternative regional distribution systems, addressing hunger in low-income communities, etc.

Yes No Unsure

A17a. What were the other goals that were related to creating a more sustainable food and agriculture system? Please list these goals for the relevant jobs and leave the others blank.

Job role and org 1

Job role and org 2

Job role and org 3

Job role and org 4

A18. Is there anything else you'd like to tell us about your work, that didn't fit within the answer options above?

1. **What type of work (paid or self-employed) did you hope to do when you graduated from Evergreen OR when you completed PSA/POF?**

2. **Where you able to do this kind of work?**

Yes | Somewhat | No | Unsure

3. **What got in the way of doing the kind of work that you hoped to do?**

Now we'd like to learn more about your <u>volunteer, personal and other work experience</u> related to creating a more sustainable food system.

All these questions pertain to activities *after participating in Practice of Sustainable Agriculture/Practice of Organic Farming (PSA/POF).*

B1a. Please list your the sustainable food and agriculture related activities you've incorporated into your paid work, that otherwise would not have been included in those jobs.

For example, this might include a chef who is committed to buying local, an elementary school teacher who incorporates food sustainability issues into the curriculum, etc.

B1b. Please list the volunteer activities or efforts that you've done, after PSA/POF, that contribute to creating a more sustainable food system.

Please include anything you think might be relevant. Here are some examples: served on a board of directors for a sustainable food non-profit, organized neighborhood gleaning, donated time to a food bank, etc.

B1c. Did you invent or innovate any of the activities you just listed, where there were none before?

Yes No Unsure

B1d. If yes or unsure, please explain.

B1e. Please list your personal activities that are related to creating a more sustainable food system, after PSA/POF.

Please include anything you think might be relevant. Here are some examples: buying local or organic, helping friends start gardens, encouraging people to stop using synthetic pesticides, etc.

B2a. Since participating in the PSA/POF Program, have you attempted to implement the following components in your employment, volunteer or personal activities that involve farming and gardening?

	Yes	No	Unsure
a. Implementation of biological diversity	○	○	○
b. Utilization of practices that promote soil quality and health	○	○	○
c. Non-use of synthetic or petrochemicals	○	○	○
d. Utilization of physical, cultural and biological controls for pest and disease management	○	○	○
e. Use of approved organic inputs	○	○	○
f. Organic certification	○	○	○
g. Use systems approach when solving problems	○	○	○
h. Water conservation practices	○	○	○
i. Integration of crops with animals (e.g., chickens, etc.)	○	○	○
j. Improve nutrient cycling	○	○	○
k. Improve energy efficiency	○	○	○
l. Use of green energy sources (e.g., wind, solar, etc.	○	○	○
m. Other environmental sustainability practices:	○	○	○

B2b. Since participating in the PSA/POF Program, have you attempted to implement the following types of strategies into your sustainable food and agriculture system related work, volunteer or personal activities?

	Yes	No	Unsure
A. Increase access to healthy food and healthy food products for those with limited access	○	○	○
B. Increase income of workers in the food system	○	○	○
C. Increase income of small and mid-scale growers	○	○	○
D. Provide safer work conditions for workers	○	○	○
F. Address inequities in access to resources (land, water, tools, etc.)	○	○	○
G. Address inequities in access to information (education, research findings, business building, etc.)	○	○	○
I. Increase inclusion, irrespective of ethnicity, class, gender, sexual preference, age	○	○	○
K. Foster sharing of power or ownership (e.g., foster democratic decision making, create opportunities forworker self-determination, etc.)	○	○	○
E. Participate in food justice organizations	○		

L. Other activities aimed at confronting inequity and advancing justice in the food and agriculture system?:	○	○	○

B2c. If yes or unsure, please explain or describe the situation (*optional*).

B2d. How, if at all, did the PSA/POF Program help you do these things?

B3a. Did the PSA/POF Program contribute to any of the sustainable food and agriculture system related work, volunteer or personal activities you've done?

○	○	○
Yes	No	Unsure

B3b. How did the PSA/POF Program contribute to any of the sustainable food and agriculture activities you've described earlier?

B3c. To what <u>extent</u> did the PSA/POF Program contribute to any of the work, volunteer or personal activities you described earlier?

	A significant amount	A lot	Somewhat	A little	Not at all
It provided skills	○	○	○	○	○
It provided knowledge	○	○	○	○	○
It identified resources where I could answer my questions	○	○	○	○	○
It provided a newtwork of people/ contacts	○	○	○	○	○
It helped shape my career goals	○	○	○	○	○
It helped shape my personal or life goals	○	○	○	○	○
It helped me refine or change my values	○	○	○	○	○
It helped me confirm my values	○	○	○	○	○
It provided confidence in my skills and abilities	○	○	○	○	○
It inspired me to do more formal education in this area (e.g., graduate school, certificate courses, etc.)	○	○	○	○	○

B4. What aspects of the PSA/POF Program were most important for helping you to do any of the employment, volunteer or personal activities you stated earlier?

Please state any aspect or experience from the Program - whether a formal part of the curriculum or not. Examples: doing fieldwork, talking with peers at meals, the diversity of other participants, being part of a community of practice, running the market, lectures, field trips, guest speakers, etc.

Now we will ask questions that will look at how to improve the PSA/POF Program.

C1. What would you identify as the most significant change you experienced as a result of the program?

C2. What changes would you suggest for the program, so that it could better help people to create a more sustainable food & agriculture system?

For example, what would have equipped you to be a better grower, educator, activist, etc.?

C3. How did you feel about the seminars, workshops, or conversations about social justice and diversity in the PSA/POF Program? (choose all that apply)

☐ They challenged me ☐ They inspired me ☐ They supported me

☐ They provided me with new insights ☐ They influenced my priorities and goals

☐ I wish there was more of a focus on these issues ☐ I wish there was less of a focus on these issues ☐ Other:

C4. What could the Program have provided to help you feel more supported in conversations about social justice and diversity?

C5. Is there anything else you'd like to share with us about the PSA/POF Program or this survey?

Demographic Section

21. What is your gender?

Female Male Non-binary Transgender Other

22. What year were you born?

23. What is the highest level of education that you had completed before attending the PSA/POF Program?

- Less than high school
- High school graduate
- Some college / associates degree
- College graduate
- Some graduate work
- Graduate degree

24. What is the highest level of education that you have completed since attending Evergreen?

- Less than high school
- High school graduate
- Some college / associates degree
- College graduate
- Some graduate work
- Graduate degree

25. What is your ethnic background? (choose all that apply)

- African-American
- Asian-American/Pacific Islander
- European-American/White
- Hispanic/Latino
- Native American / AmericanIndian
- Other:

26. A person's social class is determined by a number of things including education, income, occupation and wealth. If you were asked to use one of these five names for your social class, which would you say you belong in?

- ○ Wealthy
- ○ Upper-middle class
- ○ Middle class
- ○ Working class
- ○ Low income / poor
- ○ Don't know

27. Which social class was your family in when you were growing up?

- ○ Wealthy
- ○ Upper-middle class
- ○ Middle class
- ○ Working class
- ○ Low income / poor
- ○ Don't know

Food and Agriculture Faculty at Evergreen are working to compile a list of alumni who are interested in staying connected with them and their programs. Contact information will only be given to faculty. If you are interested in being on this list, please provide your name and contact info. *Note: this will be separated from your survey responses to preserve confidentiality.

If you would like to be contacted by Evergreen Food and Agriculture Faculty:

Name: _____

Email: _____

Thank you for completing the survey!

We greatly appreciate it! Your responses will help improve the farm program for future students.

If you'd like to find out more about what's going on at The Evergreen State College Organic Farm - go to: evergreen.edu/organicfarm

If you'd like to learn more about Evergreen's new Food and Agriculture Path of Study – go to: evergreen.edu/studies/path/food-and-agriculture

Appendix B: Welcome Letter

This email is being forwarded by Institutional Research on behalf of an MES student researcher

Dear [First Name],

I am writing to ask for your help to learn more about the impacts of two farm-based programs at Evergreen: the *Practice of Sustainable Agriculture* and *Practice of Organic Farming*. I had the great privilege to manage the Evergreen Organic Farm for four years and have focused my studies in Evergreen's Masters of Environmental Studies program on agricultural education.

This survey is brief – between 20 and 30 minutes on average. The amount of time will vary depending on the amount of work experience you have and the extent of feedback you would like to offer.

We are interested in *your* experience – the Organic Farm is a unique place and everyone's experience is of interest in this research. Results will provide important information to Evergreen faculty, staff, and administration to help better meet the needs of current and future students.

Please follow the link below to answer the survey developed in collaboration between the University of California, Santa Cruz and The Evergreen State College.

https://www.surveymonkey.com/r/EvergreenOrganicFarm

I truly appreciate your help.

Sincerely,

Connor Murphy

Evergreen Organic Farm Manager (2016-2019)
MES Candidate (2021)
connor.x.murphy@evergreen.edu
(707) 535-3702

Appendix C: Follow-up Communications

Initial Reminder (Tuesday, December 15th, 2020)
This email is being forwarded by Institutional Research on behalf of an MES student researcher

Dear [First Name],
Last week we sent you an email asking for your participation in a survey exploring the impacts of programs taught at the Evergreen Organic Farm. I hope that providing you a link to the survey makes it easy for you to respond. To complete the survey, simply follow this link:

https://www.surveymonkey.com/r/EvergreenOrganicFarm

Participants in the UC Santa Cruz farming program completed a similar survey. With your help, it may be possible for us to learn more about Evergreen's programs and compare them to other nationally recognized college and university farm programs.

Thank you so much for your help; please feel free to contact me if you have any questions or concerns.

Sincerely,

Connor Murphy

Evergreen Organic Farm Manager (2016-2019)
MES Candidate (2021)
connor.x.murphy@evergreen.edu
(707) 535-3702

Second Reminder (Monday, December 21, 2020)
This email is being forwarded by Institutional Research on behalf of an MES student researcher

Dear [First Name],
We recently sent you an email asking for your participation in a survey exploring the impacts of programs taught at the Evergreen Organic Farm. If you have already completed the survey, I would like to offer my most sincere thanks. Your feedback is incredibly valuable.

If you have not taken the survey yet, please do so if you are able. This survey was sent to approximately 500 selected students and needs to be completed by as many as possible to provide meaningful results. Results will help Evergreen faculty, staff, and administration to consider program impacts. Your participation will also help me to complete my MES degree.

If you have a few minutes, please follow the link below to complete the survey:

https://www.surveymonkey.com/r/EvergreenOrganicFarm

Thank you for your help; please feel free to contact me if you have any questions or concerns.

Sincerely,

Connor Murphy

Evergreen Organic Farm Manager (2016-2019)
MES Candidate (2021)
connor.x.murphy@evergreen.edu
(707) 535-3702

Final Reminder (Monday, December 28th, 2020)

This email is being forwarded by Institutional Research on behalf of an MES student researcher

Dear [First Name],
The Evergreen Organic Farm survey closes tomorrow; last chance to respond. If you have not taken the survey yet, please do so if you are able. If you have already completed it, please consider reaching out to a friend or colleague from the program who may not have done so.

The survey is available here:

https://www.surveymonkey.com/r/EvergreenOrganicFarm

I am extremely grateful for your assistance. Please don't hesitate to contact me if you have any questions or would like to learn more about the survey results.

Sincerely,

Connor Murphy

Evergreen Organic Farm Manager (2016-2019)
MES Candidate (2021)
connor.x.murphy@evergreen.edu
(707) 535-3702