

JEAN-MARTIN FORTIER

# the market gardener



A SUCCESSFUL GROWER'S HANDBOOK  
for SMALL-SCALE ORGANIC FARMING

Foreword by Severine von Tscharner Fleming, The Greenhorns

*Illustrations by Marie Bilodeau*

# Praise for

---

## *The Market Gardener*

This is a thorough farming manual that lays out a human-scale farming system centered on good growing practices and appropriate technology. Had I read this book when I was a starting farmer, I would now be farming with a walking tractor on an acre and hailing Jean-Martin as my market gardening guru! This book is going to inspire new farmers to stay small and farm profitably.

— Dan Brisebois, author, *Crop Planning for Organic Vegetable Growers*, farmer at Tournesol cooperative farm, Canada

Jean-Martin's book is very well done and should be of great use to market growers everywhere. Exchange of ideas and information is so important because when we pass ideas on, the next person gets to start where we got to and take the ideas to another level.

— Eliot Coleman, organic farming pioneer and author, *The Winter Harvest Handbook*

*The Market Gardener* is a very technical yet practical book. What Jean-Martin has done with his micro-farm requires a great deal of planning, good management practices and tough full reflection about new (renewed) horticultural practices, which he shares generously. For either the home or market garden this book might be as useful as... la grelinette!

— Joseph Templier, French master grower and co-author, *ADABIO guide de l'auto-construction*

In France, *The Market Gardener* has quickly become a book of reference for small-scale farmers. Both visionary and practical, it is a work of rare intelligence. By sharing a way to work the land for an abundance of growth in respect of ecological principles, Jean-Martin offers a new way of connecting to the earth and we thank him for it.

— Charles Herve-Gruyer, Permaculture teacher and grower at la Fermedu BecHellouin, France

How do we encourage a new generation of ecological, small-scale farmers? By showing that farming can be a viable, stimulating, and respected career choice. This book offers the hope that a small-scale diversified market garden can be both profitable and personally fulfilling and then goes on to give practical advice on just how to do it. I would offer this book to any new or wannabe vegetable farmer as well as to my seasoned mentors. I can't wait to see how the practices I've read about manifest on my own farm this coming growing season and in the years to come. This is an important new book for my farm library.

— Shannon Jones, small-scale organic market gardener Broadfork Farm, River Hebert, Iowa

This is a fantastic addition to any aspiring market gardener's library, and even has a few new ideas for old hands. Jean-Martin has laid out all of the basics for how we can farm more profitably and productively, and passionately on a more human sized scale. This book goes beyond the theoretical providing valuable details from his own market garden and his experiences over the years. All of this is made even more valuable because of his acknowledgement of the importance of place and also that there is an evolution to any endeavor. Grounding us with an explanation of his own small farm history and location makes it easier for us to learn from his experiences and apply them to our own small farms.

—Josh Volk, Slow Hand Farm, Portland, Oregon

Jean-Martin Fortier extols the virtues of being small-scale, and expertly details the use of such scaled appropriate tools as broadforks, seeders, hoes, flame weeders, low tunnels, high tunnels, and many other unique tools, specifically designed for this brand of farming. He picks up right where Eli Coleman has left us, applying many of his core principles, but doing it in such a brilliant way as to provide beginning farmers a solid framework of the information they need to start up and become successful small-scale organic growers themselves.

— Adam Lemieux, Product Manager of Tools & Supplies Johnny's Selected Seeds

Jean-Martin Fortier takes our hands and our hearts in his, as he recounts the lessons, practices and motivations behind his incredibly productive and profitable market garden business.

As he leads us through his packing, potting and work sheds, his greenhouses, his fields and his markets we come to know the grounded reasons behind his choices, the surprisingly relaxed rhythm of their lifestyle and work and the simple yet efficient techniques he and his partner employ on the farm. Through his tale, he inspires new and older farmers alike to continue to learn how to farm better and to continue to question the logic of getting 'bigger'.

In his frank, unassuming style, Jean-Martin creates an infallible argument for the sound economics and the appealing lifestyle of his small farm operation. And as he shares all of his farms "secrets of success" he convinces us that anyone—who is smart, determined and hard-working—can build a farm like his.

As Jean-Martin points out, new farmers today have both the choice and ability to build viable small farm operations. But, as he places their choices in the context of a world with increasingly complex and fragile ecological, food and financial systems, with the distance between each other and our natural world growing, it is clear that farmers not only have the choice but they have an imperative to take up the calling and build meaningful farm livelihoods that will continue to sustain themselves and all of us.

— Christie Young, Founder and Executive Director of FarmStewards

---

# *the market gardener*



**A SUCCESSFUL GROWER'S HANDBOOK  
for SMALL-SCALE ORGANIC FARMING**

Jean-Martin Fortier

Foreword by Severine von Tscharner Fleming, The Greenhorns  
Illustrations by Marie Bilodeau



Copyright © 2014 by Jean-Martin Fortier. All rights reserved.

© Les Éditions Écosociété, 2012, for the original French edition, *Le jardinier-maraîcher, Manuel d'agriculture biologique sur petite surface*. [www.ecosociete.org](http://www.ecosociete.org)

Cover design by Diane McIntosh. Illustration by Marie Bilodeau. All interior illustrations by Marie Bilodeau.

English translation by Scott Irving, Edgar Translation. [www.edgar.ca](http://www.edgar.ca)

First printing December 2013.

New Society Publishers acknowledges the financial support of the Government of Canada through the Canada Book Fund (CBF) for our publishing activities.

Inquiries regarding requests to reprint all or part of *The Market Gardener* should be addressed to New Society Publishers at the address below.

To order directly from the publisher, please call toll-free (North America) 1-800-567-6772, or order online at [www.newsociety.com](http://www.newsociety.com)

Any other inquiries can be directed by mail to: New Society Publishers, P.O. Box 189, Gabriola Island, BC V0R 1X0, Canada, (250) 247-9737

LIBRARY AND ARCHIVES CANADA CATALOGUING IN PUBLICATION

Fortier, Jean-Martin, 1978–  
[Jardinier-maraîcher. English]

The market gardener : a successful grower's handbook for small-scale organic farming / Jean-Martin Fortier ; foreword by Severin von Tscharner Fleming, The Greenhorns ; illustrations by Marie Bilodeau.

Translation of: *Le jardinier-maraîcher*.

Includes bibliographical references and index.

Issued in print and electronic formats.

ISBN 978-0-86571-765-7 (pdk).—ISBN 978-1-55092-555-5 (ebook)

1. Truck farming. 2. Organic farming. 3. Permaculture. I. Title. II. Title: Jardinier-maraîcher. English.

SB321.F6913 2014

635'.0484

C2013-907877-0

C2013-907878-9

New Society Publishers' mission is to publish books that contribute in fundamental ways to building an ecologically sustainable and just society, and to do so with the least possible impact on the environment, in a manner that models this vision. We are committed to doing this not just through education, but through action. The interior pages of our bound books are printed on Forest Stewardship Council®-registered acid-free paper that is **100% post-consumer recycled** (100% old growth forest-free), processed chlorine-free, and printed with vegetable-based, low-VOC inks, with covers produced using FSC®-registered stock. New Society also works to reduce its carbon footprint, and purchases carbon offsets based on an annual audit to ensure a carbon neutral footprint. For further information, or to browse our full list of books and purchase securely, visit our website at: [www.newsociety.com](http://www.newsociety.com)



# ***Contents***

---

## ***Acknowledgments***

## ***Foreword***

## ***Preface***

### ***1 Small Is Profitable***

Can You Really Live off 1.5 Acres?

Not Just Making a Good Living, but Making a Good Life

### ***2 Succeeding as a Small-Scale Organic Vegetable Grower***

A Biologically Intensive Approach

Minimizing Start-Up Costs

Minimizing Production Costs

Direct Selling

Adding Value to the Crops

Learning the Craft

### ***3 Finding the Right Site***

Climate and Microclimate

Market Access

Growing Space Needed

Soil Quality

Topography

Drainage

Access to Water

Infrastructure

Assessing Possible Pollution Problems

### ***4 Designing the Market Garden***

Buildings and Foot Traffic

Standardizing the Garden Layout

Locating the Greenhouse and Tunnels

Protection against Deer

Windbreaks

Irrigation

### ***5 Minimum Tillage and Appropriate Machinery***

Permanent Raised Beds

The Two-Wheel Tractor

The Broadfork (Grelinette)

Tarps and Pre-Crop Ground Cover

To Till or not to Till

### ***6 Fertilizing Organically***

Soil Tests

Crop Requirements

Managing Soil Fertility

---

Good Compost

Relying on Natural Fertilizers — Why?

Establishing Crop Rotation

Crop Rotation at Les Jardins de la Grelinette

Green Manure and Cover Crops

Connecting with Soil Ecology

## **7 *Starting Seeds Indoors***

Seeding in Cell Flats

The Soil Mix

Filling Cell Flats

The Seedling Room

The Evolving Plant Nursery

Heating and Ventilation of the Nursery

How to Water Seedlings

Potting up

Transplanting into the Gardens

## **8 *Direct Seeding***

Precision Seeders

Seedbed Preparation

Record Keeping

## **9 *Weed Management***

Cultivating with Hoes

Weeding with Tarps

The Stale Seedbed Technique

Flame Weeding

Mulching

Weed Control Technology

## **10 *Insect Pests and Diseases***

Scouting

Disease Prevention

Using Biopesticides

## **11 *Season Extension***

Floating Row Cover and Low Tunnels

Caterpillar Tunnels

Hoophouses

## **12 *Harvest and Storage***

Harvesting Efficiently

Harvest Help

The Cold Room

## **13 *Crop Planning***

Setting Farming Objectives

Determining Production

Establishing a Crop Calendar

---

Making a Garden Plan

Record Keeping

***Conclusion: Farming for Ecology, Community, and Lifestyle***

***Appendix 1: Crop Notes***

***Appendix 2: Tools and Suppliers***

***Appendix 3: Garden Plan***

***Appendix 4: Annotated Bibliography***

***Appendix 5: Glossary***

***Index***

***About the Author***



## DEDICATION

---

*Dedicated to the organic pioneers who have paved the way before us. With deep gratitude.*

*And to young agrarians who are now changing the face of agriculture. We have not only the choice to do things differently, but the means as well.*



# Acknowledgments

---

## to the English edition of *Le Jardinier-Maraîcher*

WRITING THIS BOOK WAS NO SMALL FEAT, and I have sunk countless hours into it. This writing adventure would never have been possible without the support of my family, the collaboration of our farm employees, and all the many volunteers who passed through to lend a hand. The long Quebec winter also played its part...

Different people have given their time to help in reviewing this book. I would especially like to thank my long-time friend Kory Goldberg for his dedicated and reflective comments and for his help in editing the manuscript. Ian LeCheminant's sharp copy-editing, Scott Irving's skill in translation, and John McKercher's proficiency in layout and design have all contributed to this final product. Working with such talented people is a real blessing.

This book would not have been possible without the help of FarmStart Ontario, an organization dedicated to supporting a new generation of entrepreneurial, ecological farmers. Their crowd-funding project kick-started this translation. Special thanks to Christie Young for taking on the idea of bringing my work to a broader audience.

I offer my thanks to Severine von Tscharner Fleming, who so kindly agreed to write the foreword. It is the work of people like her that fosters a hospitable climate for us small-scale growers.

Finally, I would like to renew my recognition to everyone who helped out with the original French edition. Naming everyone here would be too long, but I cannot express enough gratitude to Marie Bilodeau for her great art work, Laure Waridel for such an inspiring foreword, and the whole team at Écosociété who believed in this book from the very beginning. The success of *Le Jardinier-Maraîcher* is a result of your collaboration. Merci.

In closing, I would like to thank two people for contributing to the person I am. First, my father who taught me at a very young age the importance of being well-organized. This has been the backbone in my quiver. And finally, thanks to Maude-Hélène Desroches, my work partner, my best friend, and the love of my life.

— Jean-Martin Fortin

**FarmStart** is a charitable organization in Canada that provides tools, resources, and support to help a new generation of entrepreneurial, ecological farmers to get their farms off the ground and to thrive. We need young farmers, new farmers, and more farmers to revitalize our rural communities, restore resilient and sustainable food systems, and provide careful stewardship of our agricultural resources for generations to come.

We can't make starting a farm easy, but FarmStart works to make it a little less risky, a little more accessible, and a lot less lonely.

In the winter of 2013, FarmStart began an online fundraising campaign to translate *Le Jardinier-Maraîcher*, the original French version of *The Market Gardener*. We felt it was important to make this available in English, this transformational guidebook that can inspire young and new vegetable farmers. This book provides practical information not only on how to start a market garden enterprise

at an affordable and accessible scale, but most importantly about how to make it both very productive and profitable.

---

We are thrilled that now a new generation of farmers will be able to read and reread what will be a beloved must-have in a vegetable grower's library. We are excited to see how farmers will adopt and continue to adapt the ideas, techniques, and practices that Jean-Martin and Maude H el ene have proven to work on their farm and have shared with us in this fantastic guidebook.

We are grateful to all the donors who supported the fundraising campaign and made this translation possible. And we are thankful for all the passionate, pioneering, and dedicated farmers who are finding innovative and sustainable ways to grow delicious food on less land and with fewer resources. To have vibrant and resilient food systems in the future, we will need more of them.



# Foreword

---

## by Severine von Tscharner Fleming, *The Greenhorns*

TAKING THE FIRST STEP TOWARDS a better future is always the most difficult. Forty years ago, economist E.F. Schumacher offered us *Small Is Beautiful*, an accessible and appropriate treatise to help us take such a step in the chaotic global economy. Poet and agrarian philosopher Wendell Berry suggested that “there is no big solution,” only many small ones, and that we must rebuild the economy from the ground up.

I met Jean-Martin at a Greenhorns Grange hall mixer in the Adirondacks of New York. He arrived with his wife, Maude-Hélène, and their two lively, delightful children in a vegetable delivery van piled high with bicycles and camping gear. After the workshops on oxen, soil life, and fermentation followed by a puppet show, dance party, and pig roast, the whole family quietly mounted their bikes and returned to the tent they’d set up in a nearby field. There were quite a few words spoken about these charming Canadian interlopers, and we made sure to get them on our mailing list. I later visited the couple’s farm in rural Quebec, about 60 minutes north of Burlington, Vermont. Beyond the incredible gardens, I was astounded that the farm had as much recreational gear as farming equipment! And most of it could probably be stuffed into and onto their big white van. Talk about low-tech.

Les Jardins de la Grelinette is a place of tremendous productivity—the gardens bursting with huge cabbages, humming bees, and wheelbarrows darting in and out of permanent vegetable beds neatly tucked into their remay and black mesh. The couple has transformed a derelict rabbit barn into a compelling, comfortable, beautiful home, farm and workspace. La Grelinette is a place of beauty with its ample wild berries, ferns, and forest interspaced with swimming holes, hand-built cabins for visiting interns, and a wood-powered sauna. Every aspect is modest, functional, well-designed, and well-considered, with happy farmers to boot! It’s a living testament to the opinions and operations described in *The Market Gardener*. They have pulled it off, and so can you!

Aspiring young farmers are currently confronted with tremendous structural odds, such as an economy that undervalues food, but where real estate pressure forces land prices up. In this challenging climate that discourages small business startups, big businesses set the terms of trade and benefit from unfair labor practices, while subsidizing production costs and externalizing environmental ones. Industrial agriculture has dominated the landscape for the last 40 years, polluting the water, and skewing the marketplace, while warming the climate for future generations. The only “price” agribusiness will pay is to lobby hard in order to keep their status quo. These business interests might be mega-sized and intimidating, but let us not underestimate the cumulative power of many small initiatives. Like the humble acorn that grows into a mighty oak, we have the power to grow up from underneath.

My experience documenting and interviewing the growing young farming community over the past 7 years connects me with a dense fabric of personal and professional narratives around farm startup. I have heard hundreds, if not thousands, of personal farm startup stories, from romance to breakup. I believe that the information, advice, and content in this book, based on Fortier’s experience, is invaluable precisely because it is approachable and doable without a lot of money, or

land, or debt, or infrastructure—major stumbling blocks for a young person to confront. A frustrated farm apprentice, evaluating these and other challenges, may decide to drop out of agriculture to pursue a more secure, reliable income in other fields. By laying out a micro-sized enterprise, Jean-Martin not only giving these aspirants the how-to of vegetable production, but has laid out an accessible simple economic plan that interprets the feasibility of success in small-scale organic farming. This turn represents a powerful leverage point in increasing the numbers of farmers overall, as well as pointing to a “way in” of economic opportunity for the rest of us.

The corporate food system is now fully centralized and controls many factors that undermine the sector’s ultimate resilience. It is energy dependant, highly concentrated, and ultimately unsustainable on any long-term evaluation. Unfortunately, it also controls much of the land base. Where then, in the landscape of monocultures and degraded soils, are the spaces of opportunity? We have already seen good economic traction from CSAs and farmers markets mushrooming all over the US, Canada, and Europe. In some places, especially progressive cities like New York, San Francisco, and Boulder these markets may seem close to saturated. But in many more areas, these foods are still not available and the market is untapped.

As I travel around North America, I keep an eagle eye out for the places of strategic opportunity for further farm development. Here, again, Jean-Martin has identified an opening in peri-urban areas in and around smaller cities and larger towns, especially where the built environment has contracted from the exit of industry, or the breakdown of previous industrial agricultural sectors (e.g., poultry, tobacco, cut flowers, horticulture, equine). In these contexts, there are many small parcels, and small broken-down farm properties perfectly suited to intensive cultivation by La Grelinette-type market gardeners. Vacant urban lands, fractured farming landscapes that have been split up by development, institutionally owned land, and peri-urban marginal lands may be some of the most affordable options for owner-operators, as a full-time or part-time occupation. This could be a “starter farm” that helps the farmers save up money to move operations further out into the countryside after a few years, or else a way to live a farming life in the city—the best of both worlds! The growing strategies and know-how presented in this book are important in this regard.

The Williamson Act, recently enacted in the State of California, is a legislative victory pointing to the potential for transforming the terms of development. Under this legislation, marginal, blighted, under-utilized lands within the urban boundary can be rented to commercial farmers. If the landlord make a 5-year lease agreement with farmers, the City will waive their property taxes. This kind of law gives new farmers a bargaining chip to be used in negotiations with landowners, and the possibility of small-scale startup. This is only one example among many other initiatives, particularly in urban gardening, urban greenways/urban land trusts, for food security purposes.

It may well prove that micro, low-cost, low-input, high-diversity and high-productivity systems have a major role to play in rebuilding regional food security. The example set out at La Grelinette is a living proof of this security. Jean-Martin and Maude-Hélène’s work follows in a tradition of appropriate growing practices established by Alan Chadwick, John Jeavons, Eliot Coleman, and Miguel Altieri in the US, as well as Cuban Farmers, the Basque Farmers union, and others from the Via Campesina peasant movements from all over the world. Small-scale biological farming is making a comeback—the right-sized tool for the job—helping individuals and families wiggle free from dependency on unfair waged labor in the mainstream economy. Small-scale farming is the right tool precisely because it’s compatible with a set of opportunities in our current economy (in both the developing and developed worlds), and is adapted to the possibility of a new economy that will inevitably emerge as conditions (in both energy and transportation), scale, and control are forced

contract.

The modest scale of such operations may not match contemporary culture's obsession with size and economy of scale, but following a different narrative, one that is more suitable in the long run, both profitable and possible. The guidance given in this book, especially around limiting mechanical investments and overhead costs, might prove to be a more successful business mandate, as well as a more beautiful way to live.

This handbook is a testimony to such ideas, made manifest in a real place. It's an amazing first read for beginners because it's comprehensive, holistic, and succinct. While the nuance and detail of sustainable agriculture may take a lifetime to master, the lessons, experience, and skill-set shared in this volume are sufficient to get started. The straightforward approach, transparent economic considerations, and clear instructions presented by Jean-Martin should enable anyone willing to commit to a few years of apprenticeship and outdoor handcraft adventure a certitude that they can start their own career in farming. And start now—our world needs more farmers!

---

*Severine von Tscherner Fleming is an organizer, filmmaker and farmer living in the Champlain Valley of New York. She runs the Greenhorns, a 6-year-old nonprofit network for young farmers in the US ([thegreenhorns.net](http://thegreenhorns.net)). Severine is also co-founder and board member of Farm Hack, an open source platform and workshop for appropriate farm technologies ([farmhack.net](http://farmhack.net)) and co-founder of the National Young Farmers Coalition ([youngfarmers.org](http://youngfarmers.org)).*

# Preface

---

AFTER FINISHING MY UNIVERSITY STUDIES at the McGill School of Environment in Montreal, my wife Maude-Hélène and I set out on a two-year journey to Mexico and the United States to work on small organic farms. Coming from a sub-urban background disconnected from nature, this newly discovered rural lifestyle changed the way I saw the world. Spending long hours each day outside not only made me rethink my political and philosophical positions, but it nourished my soul. After spending so many years—indoors—reading about how the modern global economic system is destroying our planet's ecological integrity, it felt great to finally find a direct way to impact the world in a positive manner. The farmers and the farming communities where we stayed were amazing and we felt blessed to have the opportunity to take part in their way of life. I had found practical idealism.

Coming back home to integrate our lessons from abroad, Maude-Hélène and I spent a few years as self-employed market gardeners on rented land. We started a family and eventually felt the need to have our own home. By then we knew we wanted to get established in farming. Once we found our ten-acre site in Saint-Armand, in the Eastern Townships of Quebec, we immediately began to put into practice the things we had learned about permaculture and intensive cropping systems. Soon enough we built up a very productive market garden on less than two cultivated acres. We named the farm after the *grelinette* (“broadfork” in English), a tool that epitomizes efficient hand labor in ecological gardening.

Maude-Hélène and I began this venture together, and the success of our micro-farm is the result of our collective intelligence and hard work. So, while *The Market Gardener* represents my own opinions and suggestions, I use the pronoun “we” throughout the book when describing the horticultural methods and techniques we used on our farm.

*The Market Gardener* grew out of a desire to provide aspiring farmers with a tool to help them start their businesses. For a number of years I had worked with Montreal's *Équiterre*, a nonprofit organization dedicated to sustainable development, serving as a mentor for beginning farmers. It became clear to me that although persistence, determination and hard work are all key ingredients for successful farming, these qualities on their own are not enough. Careful planning and design, good management practices, and appropriate choices of equipment are all essential components for developing an understanding of the farm as a whole system. And since it has been uncommon in Quebec to grow vegetables on a micro-scale level using hand tools, I felt that our experience contained valuable information to pass along.

To this end, I set out to describe the horticultural practices used in our market garden, chapter by chapter, in as much detail as possible. The learning curve in growing crops commercially is steep, and I have always believed that a seasoned grower is in the best position to impart the know-how required for the tasks at hand. Personal experience has also taught me that having a clear guide on what to do at each stage of the growing season, and a good example to follow, are both essential when you don't have much experience in a given field. I believe this handbook provides valuable guidance.

One of the guiding principles in writing this book was to share only growing methods that were successfully practiced for many seasons on our farm. This assures the reader that the information presented is both accurate and proven. This being said, I have not touched upon many other practical

and techniques used by other successful growers and I encourage the reader to explore different cropping systems than the one I describe. There are many great books about organic gardening and farming and I have recommended additional texts in the annotated bibliography.

Finally, it's important to state that the practices described in this book and used on our micro-farm are not set in stone. We read voraciously, visit as many farms as possible, and constantly communicate with other growers. From time to time, our research leads us to discover better tools and more effective growing techniques. Our production system is a constant work in progress, and our methods will undoubtedly be further refined with time. Nonetheless, I am confident that if you plan on starting an organic market garden then you will find the accumulated knowledge we are presenting to be a useful point of departure and reference. I wish you the best along your agricultural journey and look forward to hearing how you give shape to your market garden, in new places and in different ways.

—Jean-Martin Fortin  
Saint-Armand, Quebec, September 2011



# Small Is Profitable

---

*Nearly everywhere we look, the stirrings of a revolution are becoming increasingly clear: people are farming differently; and we see signs of landowner resistance with a focus on local production, concern for the environment, and citizenship.*

— H el ene Raymond and Jacques Mat

*Une agriculture qui go te autrement. Histoires de productions locales, de l'Am erique du Nord   l'Europe, 20*

EVERYWHERE AROUND THE WORLD, people's eyes are being opened to the ravages of industrial agriculture: pesticides, GMOs, cancer, agribusiness. Along with this growing awareness is an increasing consumer demand for healthy, local, organic food. Alternative modes of selling and purchasing food are also gaining ground, visible not only in the mushrooming farmers' markets but also through community-supported agriculture, or community-shared agriculture (CSA) schemes. The system is a direct exchange between producers and consumers. The consumer buys a share in the farm's production at the beginning of the season, thus becoming a partner in the endeavor. In exchange, the farm commits to providing quality produce, usually harvested the day before, or even the same day. In addition to issues of quality, this model of food distribution addresses people's desire to have a relationship with the farmers who grow their food.

These ideas are making headway in Quebec:  quiterre, which oversees one of the largest networks of organic farmers and citizens in support of ecological farming, has brilliantly complemented the notion of the family doctor with that of the "family farmer." Alternative modes of food distribution now represent a growing niche, and moving out to the country to make a living in agriculture is now a viable option for young (and not-so-young) aspiring farmers.

My wife and I began our farming career in a very small market garden, selling our veggies through a farmers' market and a CSA project. We rented a small piece of land ( 1/5 of an acre) where we set up a summer camp. It didn't take much investment in the way of tools and equipment to get us up and running, and our expenses were low enough that we were able to cover our farming costs, earn enough money to make it through the winter, and even do some travelling. Back then we were content just to be gardening and to be making ends meet.

Eventually, however, there came a time when we felt the need to become more settled; we wanted to build a house of our own and put down roots in a community. Our new beginning meant that our market garden would have to generate enough income to make payments on the land, pay for the construction of our house, and keep the family afloat.

To accomplish this, we could have followed a route similar to that taken by all the other growers we knew: invest in a tractor and move towards a more mechanized growing system. Instead, we opted to stay small-scale and continue relying on hand and light power tools. From the outset, we had always believed that it was possible—and even preferable—to intensify production through gardening techniques. To grow better *instead* of bigger became the basis of our model. With simplicity in mind, we began researching horticultural techniques and tools that could make farming on our one-and-a-half-acre plot a viable reality.

After much research and many discoveries, our journey led us to what is now a productive and profitable micro-farm. ~~Every week, our market garden now produces enough vegetables to feed over 200 families and generates enough income to comfortably support our household. Our low-tech strategy kept our start-up costs to a minimum and our overhead expenses low. The farm became profitable after only a few years of production, and we have never felt the pinch of financial pressure. Just like in the beginning, gardening is still our main focus, and even though there have been a lot of changes around the farm over the years, our lifestyle has remained the same. We don't work for the farm; the farm works for us.~~

We decided to brand ourselves specifically as market gardeners (*jardiniers-maraîchers* in French) to emphasize the fact that we work with hand tools. Unlike most contemporary vegetable producers who grow in vast fields, we work in gardens where our fossil fuel input is relatively low. The features that characterize our operation—high productivity on a small plot of land, intensive methods of production, season extension techniques, and selling directly to public markets—are all modelled after the French tradition of *maraîchage*, although our practices have also been influenced by our American neighbors. The greatest influence on our work has been the American vegetable grower Eliot Coleman, whom we have visited and met on several occasions. His book *The New Organic Grower* guided us and helped us see that it truly is possible to turn a profit on less than two cultivated acres. Coleman's shared experience and his innovation in techniques for growing vegetables on small plots were a gift to us, and we owe him a great deal.

Of course, most established farmers would probably tell us that farming without a tractor is too much work and that we are too young to appreciate how much easier our lives would be with mechanization. I disagree. The cultivation techniques described in this book actually reduce the amount of work required for field preparation, and planting crops more closely together greatly reduces weed pressure. And though most of our gear and tools are hand-powered, they are quite sophisticated and designed to make tasks more efficient and ergonomic. All in all, apart from harvesting, which accounts for the bulk of our work, our productivity and efficiency are extremely high. The manual labour we do is pleasant, lucrative, and very much in keeping with a healthy lifestyle. More often than not, we enjoy the sound of birdsong as we work, rather than the din of engines.

None of this is to say that I object to all forms of mechanization. Of the most successful farms we have visited, the majority were highly mechanized—Eliot Coleman's being the exception. I would simply put it this way: using a tractor and other machinery for weeding and tilling does not by itself guarantee that farming will be more profitable. When choosing between a non-mechanized approach and machinery such as a two-wheeled tractor, aspiring farmers must always weigh the pros and cons, especially if they are just starting out.

## ***Can You Really Live off 1.5 Acres?***

When it comes to commercial vegetable growing, the idea of a profitable micro-farm is sometimes met with scepticism by people in the farming world. It is even possible that some naysayers would try to discourage an aspiring farmer from starting an operation like ours, stating that production simply won't be enough to make ends meet for a family. I encourage aspiring farmers to take this kind of scepticism with a grain of salt. Attitudes are beginning to shift as micro-farming in the United States, Japan, and other countries is demonstrating the impressive potential of biologically intensive cropping.

systems geared towards direct selling. Our farm in Quebec, Les Jardins de la Grelinette, is living proof of this. In our first year of production on rented land, our farm brought in \$20,000 in sales with less than one quarter of an acre under cultivation. The following year, our sales more than doubled on the same garden size, rising to \$55,000. In our third growing season, we invested in new tools and land, settling on our own farm site in Saint-Armand. By increasing our area under cultivation to one and a half acres, we were able to increase our gross sales to \$80,000. When our sales broke the \$100,000 mark the following year, our micro-farm reached a level of production and financial success that most people in the agriculture industry believed to be impossible. When our sales figures were made public through a farming competition, our business won a prize for its outstanding economic performance.

For the last ten years, my wife and I have had no other income than the one we obtain from our 1½-acre micro-farm. Many other small-scale growers make better than a living wage on small, intensively cultivated plots, and there should not be any doubt that it is possible to have a career in market gardening. In fact, one can imagine making a pretty decent livelihood. A well-established, smoothly running market garden with good sales outlets can bring in \$60,000 to \$100,000 per acre annually in diverse vegetable crops. That's with a profit margin of over 40%—a figure that stacks up favorably against margins in many other agricultural sectors.



*Our daily life in the garden is in tune with the passing seasons and in line with how we want to live. Market gardening is hard work, but also rewarding and fun.*

## ***Not Just Making a Good Living, but Making a Good Life***

The popular myth of family farms persists: we are tied down to the land, we work seven days a week, we never have time off, and we just barely scrape by financially. This image probably has its roots in the real-life struggles experienced by most conventional farmers, who are caught in the stranglehold of modern agriculture. It is true that being a mixed vegetable grower is hard work. Rain or shine, we are up against the vagaries of a highly unpredictable climate. Bumper crops and seasons of plenty are far from guaranteed, and a hefty dose of pluck and commitment is required to make it through—particularly during those first few years, when one is still building infrastructure and a customer base.

Our vocation is nevertheless an exceptional one, defined not by the hours spent at work or the money earned, but by the quality of life it affords. Believe it or not, there is still plenty of free time left over when the work is done. Our season gradually gets started in the month of March and finishes in December. That's nine months of work; three months off. The winter is a treasured time for resting, travelling, and other activities. To anyone who pictures farm life as endless drudgery, I would assure that I feel quite fortunate to live in the countryside and work outdoors. Our work offers us the opportunity to become partners with nature on a daily basis, a reality that not many other professional careers can offer. Unlike employees of big companies living with the constant threat of layoffs, I have job security. That's saying a lot.

After having spent so much time at the computer writing this book, I would also add that the physical demands of market gardening are actually easier on one's health than sitting in front of a computer screen all day. By saying so, I hope to reassure some readers that gardening as a living is not so much a question of age as one of will. Whether or not you have a background in farming, you can learn everything you need to know in this time-honored vocation if you are serious and motivated. You need only invest your time and enthusiasm.

Since our farm began hosting interns just getting their feet wet in the world of agriculture, I have noticed that most aspiring farmers I meet are drawn to the fields for one fundamental reason. It's not just that they want to be their own boss and get out in the fresh air as much as possible—most of them are looking for work that brings meaning to their lives. I can understand this, because I have found much fulfillment in being a family farmer. Our toil in the garden is rewarded by all the families who eat our vegetables and thank us personally every week. For anyone looking for a different way of living, market gardening offers a chance not only to make a good living, but also to make a good life.

# *Succeeding as a Small-Scale Organic Vegetable Grower*

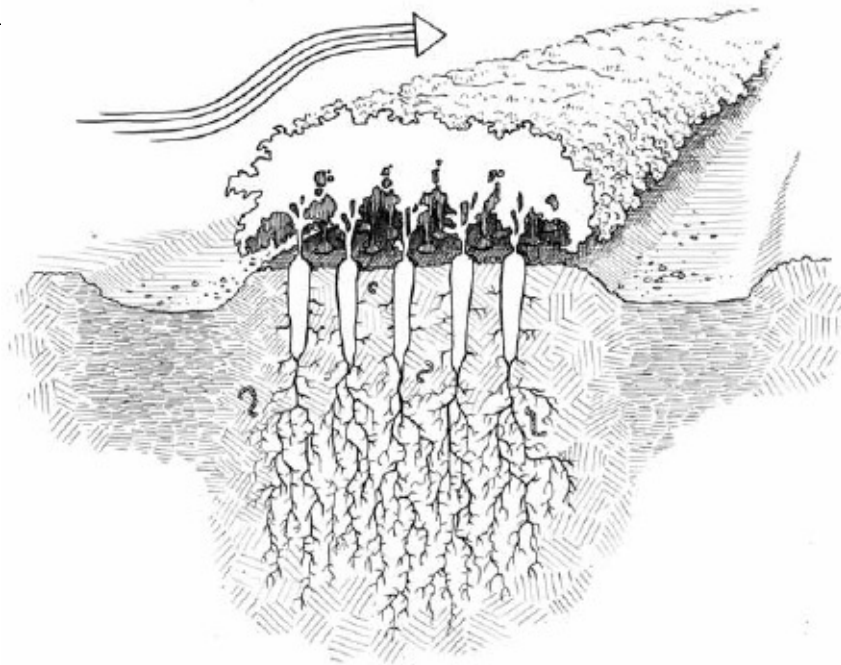
*To obtain the best yield from the soil, without excessive expenses, through the judicious selection of crops, and through appropriate work: such is the goal of the market gardener.*

– J. G. Moreau and J. J. Daverne, *Manuel pratique de la culture maraîchère de Paris*, 18

BECAUSE OUR MICRO-FARM has garnered so much media attention in recent years, farmers of all stripes and many agronomists have been coming to meet us and visit our gardens. These people, most of them only familiar with modern large-scale conventional farming, are curious about our work because we challenge the belief that the small family farm cannot stay afloat in today's economy. Despite our decade of experience in proving the viability of a micro-farm, most of these visitors remain unconvinced. They find it difficult to wrap their heads around the fact that we have no plans to make major investments and that we intend to stay small and continue working with hand tools. A bank loan officer who visited us adamantly declared as she left that we were not real business people, and that our farm was not a real farm!

Our farming choices may be easier to understand when one stops to consider the obstacles that beginning farmers must face when they are just getting started. For us, the decision to grow vegetables on a small plot of land, while minimizing start-up investments, simply had to do with our financial reality at the time. When we were in our early twenties, our financial resources were limited and we felt strongly about the importance of minimizing our debt load. Ten years later, our strategy of starting a farm without a large capital expense, while still producing high yields of vegetables for direct sales, has proved to be lucrative. Our market garden demonstrates that high profits can be earned *without* high costs.

For beginning farmers, there are a number of advantages to “starting small”—but there is also much to be said for staying small in the years that follow. That being said, whatever the size of the planned operation, it is important to understand the implications of different production strategies in order to make wise choices about how to best succeed as an organic vegetable grower. This chapter touches on a few factors which, in my opinion, are at the heart of our market gardening success.



*When crops are closely spaced on a bed, the plant leaves come to rapidly touch one another, creating a beneficial microclimate. This canopy reduces weed growth, helps retain moisture in the soil, and protects the crop from wind damage.*

## ***A Biologically Intensive Approach***

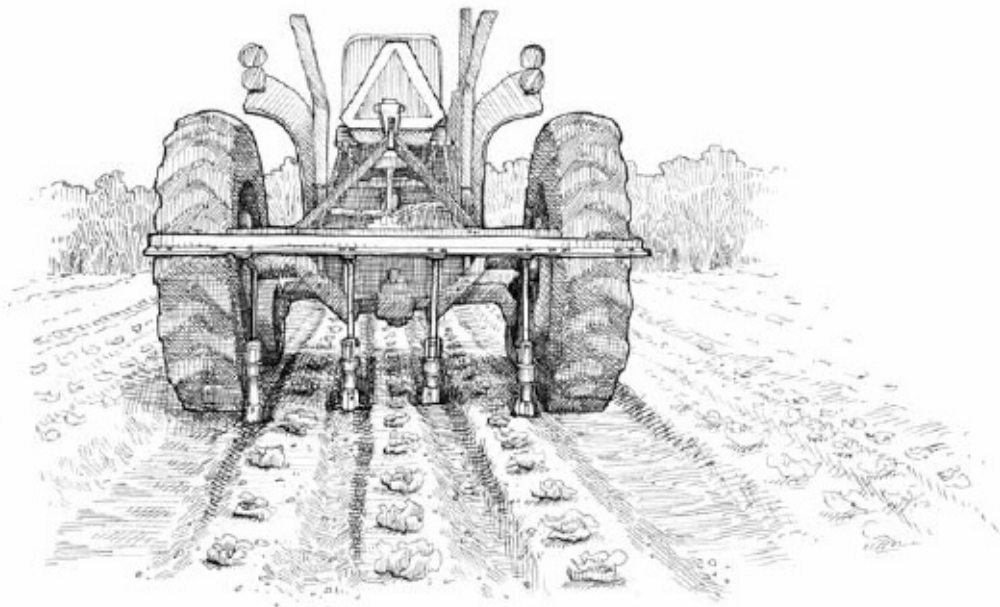
The term “biointensive”\* broadly refers to a horticultural method in which growers maximize crop yields from a minimum area of land, while seeking to preserve—or even improve—the quality of the soil. Drawing on the experience of 19th-century French vegetable growers and Rudolph Steiner’s biodynamic principles, the biointensive method was refined in northern California beginning in the 1960s.

*In some circles, the word “biointensive” refers to a very narrowly defined set of practices and techniques. Some people have even tried to trademark the approach. I generally prefer the expression “biologically intensive,” and I will use it more often in this book, but both refer to the same ideas and principles.*

There is now a whole literature on biologically intensive vegetable growing methods, and although the techniques most often discussed in these works (see bibliography for recommended reading) are geared towards home gardening, a number of the practices can be useful in the context of commercial production. We took one such approach in developing our cropping system.

To begin with, we have not arranged our garden in the rows typically used in mechanized farming, where crops are spaced according to the dimensions of the tractors and weeding machinery. Instead, we grow our crops in permanent raised beds. While establishing the beds, we invested in a large quantity of organic matter with the idea of quickly creating a rich and living soil. We effectively built our soil this way. Since then, we’ve continued to add compost regularly while limiting any turning of the soil to just the surface, thereby keeping the structure as intact as possible. For deep soil

cultivation, we use a broadfork (*grelinette* in French) which allows us to aerate the soil without turning it. The purpose of this cultivation is to create loose, fertile soil, which encourages the crop roots to spread downward rather than sideways. This in turn makes it possible to plant the crops quite close together without them running into each other at the root level.



*Mechanized farming, whether conventional or organic, spaces the rows of crops according to the dimensions of the tractors and the weeding machinery. Since we use only hand-powered tools to control weeds on our farm, we do not have this limitation.*

The goal is to space the crops such that their leaves touch each other when the plants reach three-quarters of their full size. At maturity, the foliage will cover all of the growing area, effectively creating a living mulch. This strategy of closely spacing the crops (in addition to allowing high yields per square foot) has two main advantages. The first is that it greatly cuts down on the amount of weeding required, and the second is that it renders many day-to-day gardening tasks more efficient. These benefits will be explained in detail throughout this book.

In our gardens, it is the quality of the soil structure, combined with the microbe- and nutrient-rich compost that we use, which allows intensive spacing to work well. It took us a few years of trial and error to determine the proper spacing for each crop—so that they are planted as densely as possible without limiting their size at maturity—but it was a worthwhile effort. We also sought to further maximize our growing space by planting as many succession crops as possible. This means that we must determine the length of time each crop spends in the garden and plan our seedings so that harvested crops are replaced by new ones as soon as they are out of the garden. Using our crop plan, we succeed in producing multiple successive harvests each season in the same space.



---

sample content of The Market Gardener: A Successful Grower's Handbook for Small-scale Organic Farming

- [read online \*Historical beginnings, the Federal Reserve\*](#)
- [click Emma Sugar and Spice and Everything Nice \(Cupcake Diaries, Book 15\) pdf, azw \(kindle\), epub](#)
- [F pdf](#)
- [read online Secret Scorpio \(Dray Prescott, Book 15; Valian Cycle, Book 1\)](#)
- [Onschuldig \(Deleu, Book 6\) pdf, azw \(kindle\), epub, doc, mobi](#)
  
- <http://rodrigocaporal.com/library/Historical-beginnings--the-Federal-Reserve.pdf>
- <http://thermco.pl/library/Games-Master--UK---May-2012-.pdf>
- <http://test.markblaustein.com/library/The-Last-Kiss--A-True-Story-of-Love--Joy-and-Loss.pdf>
- <http://aseasonedman.com/ebooks/Shadowland.pdf>
- <http://chelseaprintandpublishing.com/?freebooks/Onschuldig--Deleu--Book-6-.pdf>