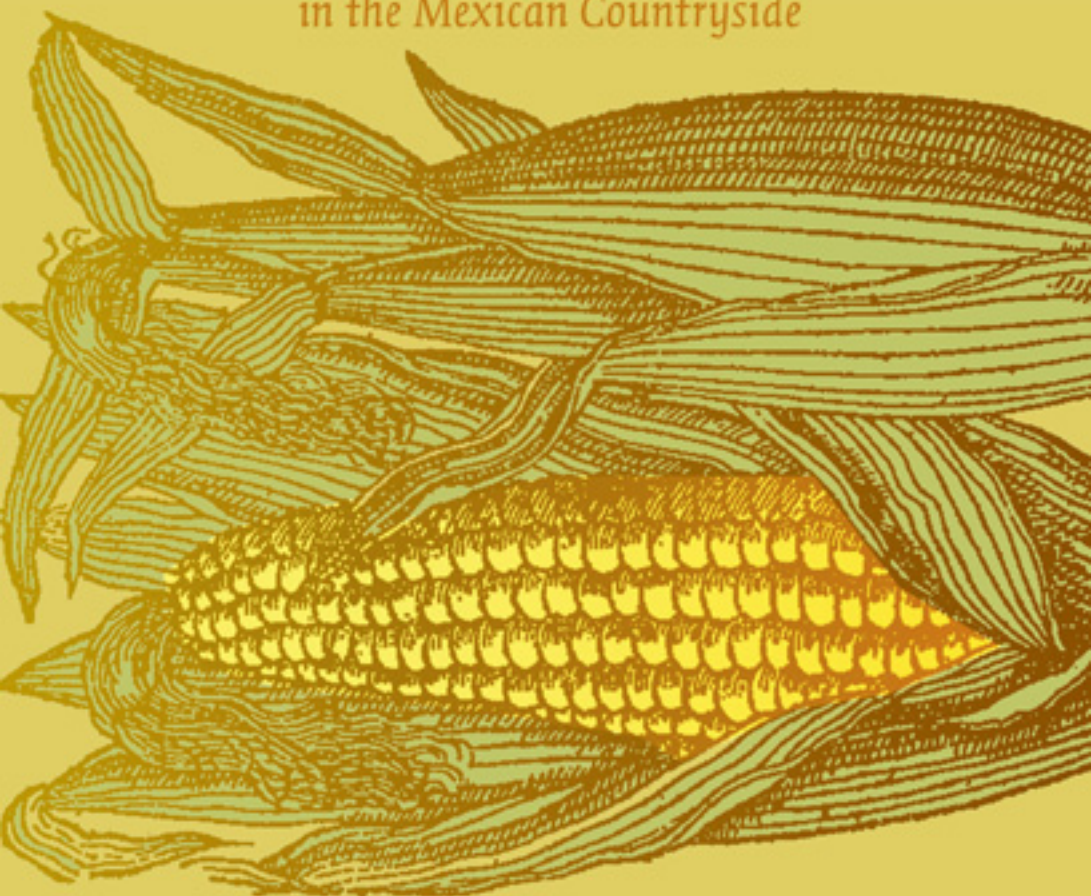




THE STRUGGLE FOR MAIZE

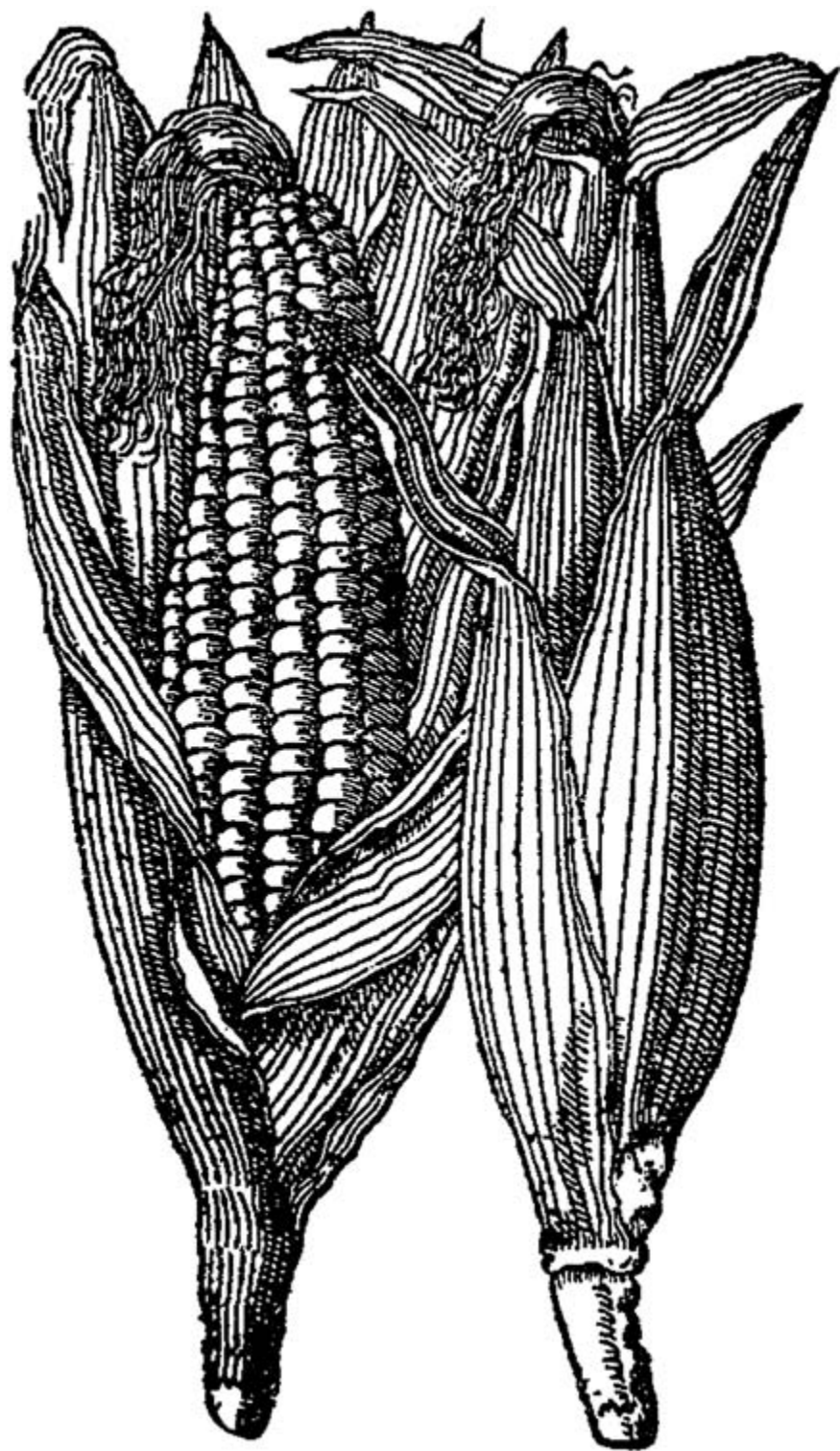
Campesinos, Workers, and Transgenic Corn
in the Mexican Countryside

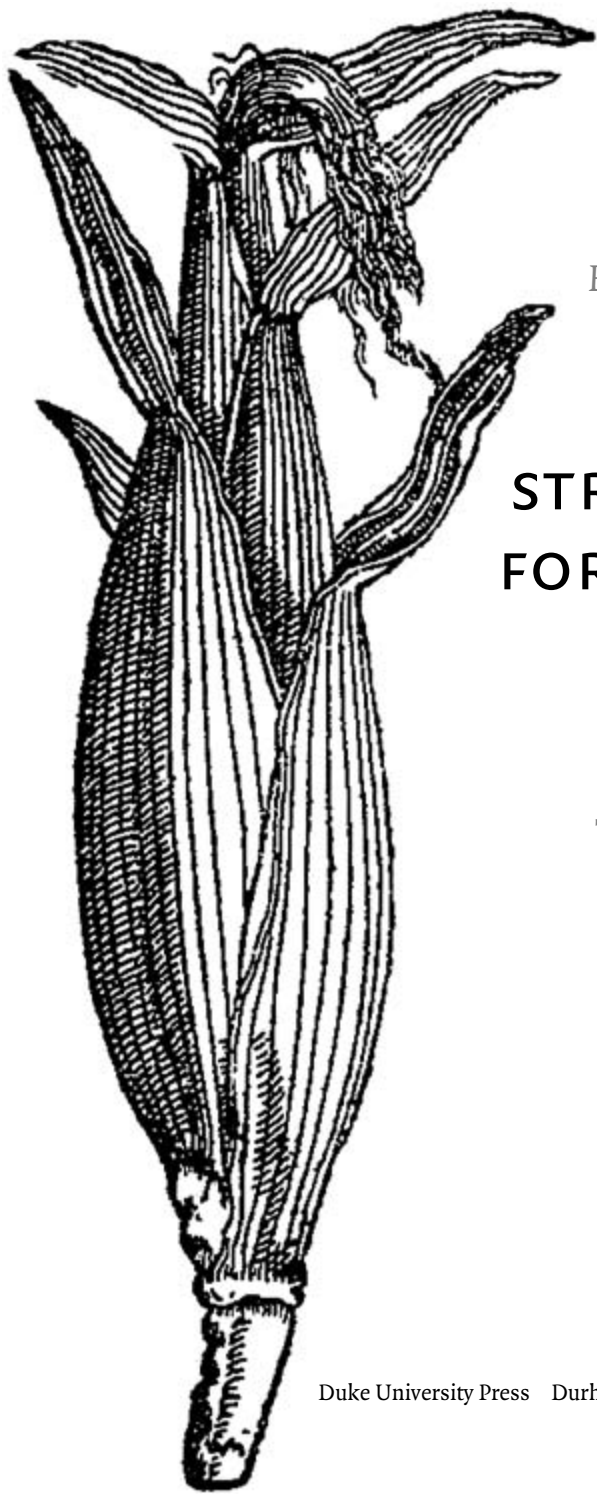


Elizabeth Fitting



The Struggle for Maize





Elizabeth Fitting

THE STRUGGLE FOR MAIZE

*Campesinos,
Workers, and
Transgenic Corn
in the Mexican
Countryside*

Duke University Press Durham and London 2011

© 2011 Duke University Press
All rights reserved.
Printed in the United States of
America on acid-free paper ∞
Designed by C. H. Westmoreland
Typeset in Quadraat by
Keystone Typesetting, Inc.
Library of Congress Cataloging-in-
Publication Data appear on the last
printed page of this book.

For my parents

Contents

ix	LIST OF TABLES
xi	ACKNOWLEDGMENTS
xv	LIST OF ABBREVIATIONS
i	INTRODUCTION: The Struggle for Mexican Maize
33	<i>Part 1: Debates</i>
35	CHAPTER 1 Transgenic Maize and Its Experts
75	CHAPTER 2 Corn and the Hybrid Nation
117	<i>Part II: Livelihoods</i>
120	CHAPTER 3 Community and Conflict
155	CHAPTER 4 Remaking the Countryside
197	CHAPTER 5 From Campesinos to Migrant and Maquila Workers?
230	CONCLUSION
239	APPENDIX: Producer Interviews, 2001–2002
249	NOTES
265	GLOSSARY
271	BIBLIOGRAPHY
293	INDEX

Tables

1. Estimated Demand for Corn in Mexico 17
2. Labor and Land in San José Miahuatlán, 1970 136
3. Largest Producers of Elote by State, 1990 160
4. Largest Producers of Elote by State, 2000 161
5. Maize Production in Municipio of San José Miahuatlán, Puebla (in Hectares) 163
6. Elote Production in the Municipio of San José Miahuatlán 164
7. Costs of Elote Production, Spring–Summer 1995 171
8. Costs of Elote Production, Spring–Summer 2001 (Rainy Season) 172
9. Elote Profits, 2001 173
10. Costs of Maize (Grain) Production, 2001 174

Acknowledgments

I am indebted to many people in the Tehuacán area. First and foremost, I am grateful to the people of the southern valley who shared their insights and experiences with me. I particularly want to thank Regino Melchor Jiménez Escamilla, who helped me conduct interviews, discussed many details of this book, and offered me his friendship. My stay in the valley was enriched by his humor and intellect. I also thank my English students from the valley, some of them migrants, for sharing their stories. Zoilo Noel Guzmán Herrera spontaneously offered to become my research assistant during one of his visits home, and I thank him for his company. On my first trip to San José, Celedonio and Irma Zamora extended to me their hospitality, for which I am grateful. In Tehuacán, I thank Juan Manuel Gámez Andrade, then director of the Tehuacán Archives, and Angel Barroso Díaz, who granted me access to their private archives of Tehuacán newspapers.

Over the years I have benefited from conversations with scholars, researchers, and friends based in Mexico. A special thanks goes to Ricardo F. Macip, who suggested the valley to me as a field site and offered perceptive comments and friendship throughout the evolution of this project. I am grateful to Antonio Serratos and María Colin for so patiently explaining various aspects of transgenic corn regulation on numerous occasions; David Barkin for his knack for asking the right questions; Leigh Binford for his editorial comments on an early summary of my research; Nancy Churchill for her always engaging discussion; Edit Antal and Yolanda Massieu Trigo for sharing their considerable knowledge on GM regulation and politics; and to all the people who agreed to be interviewed about corn politics and GM regulation over the years. For their hospitality I thank the Macip family in Puebla, Eduardo in Mexico City, and Rose

in Tehuacán; and for their company I thank Efraín, Marisela, María, Mahua, and especially Antonio Ortega in Cuernavaca.

While studying at the New School for Social Research I had the good fortune of working with professors who were both challenging and encouraging. I would especially like to thank Deborah Poole for her insightful comments and support. I also benefited from the guidance of Kate Crehan, Rayna Rapp, and William Roseberry; and my project was enriched by discussions with Erin Koch, Lauren Martin, Richard Wells, and Catherine Ziegler.

During the process of research and writing, various individuals and institutions provided different kinds of assistance for the project. I am grateful to David Cleveland, Cathrine Degnen, Birgit Müller, Gerardo Otero, and Gavin A. Smith for their comments at different stages of thinking through the research and writing; to Michelle Capistran Early for her assistance in the field; to Ignacio Chapela for his helpful interview; to my copy editor, Fred Kameny, and the manuscript's anonymous reviewers for their very constructive comments; to Citlalli Reyes for transcribing a couple of interviews; to Paul Lobue for his work on the maps; and to Natasha Hanson and Mafe Rueda for their help with the manuscript's layout.

I would like to extend my thanks to my colleagues at Dalhousie University, particularly to Lindsay Dubois for always being available for feedback and brainstorming; Gregg Hetherington, Christina Holmes, Matt Schnurr, and Emma Whelan for their comments on a section of the manuscript; and Liesl Gambold and Pauline Gardiner Barber for their advice and encouragement.

I am grateful to the Wenner-Gren Foundation for Anthropological Research for generously supporting portions of both the research and writing stages of this project. The New School and Dalhousie University also funded portions of the research. I would also like to acknowledge the permission of Springer for reprinting parts of "Importing Corn, Exporting Labor: The Neoliberal Corn Regime, GMOs, and the Erosion of Mexican Biodiversity" in *Agriculture and Human Values* 23 (2006) and to Berghahn Journals for permission to reprint a section of "The Political Uses of Culture: Maize Production and the GM Corn Debates in Mexico" from *Focaal: European Journal of Anthropology* 48 (2006). This book expands on parts of previously published work by the Benemérita Universidad Autónoma de Puebla: my chapter in Leigh Binford's *La economía política de la migración internacional en Puebla y Veracruz* (2004); my article "¿De la

economía ‘natural’ a la global?” in the journal *Bajo el Volcán* 7, 11 (2007); and my chapter in Francisco Gómez Carpinteiro’s *Paisajes mexicanos de la reforma agraria* (2007), which was co-published with El Colegio de Michoacán and CONACYT.

Longtime friends and family members have been a source of support and encouragement throughout this project. I have counted on support and friendship from my mother Priscilla, my sister Sarah, and Steph, Sarah, and Debora. My father, Peter, deserves a special thanks for his support and editorial corrections at an earlier stage of writing. Thanks also go to my aunt Betsy for her hospitality. My newer friends Jan and Sue and Jun and Jenny have helped with making a new city of residence a home. Finally, I am especially grateful to María Mercedes Gómez for her intellectual companionship and the innumerable ways she has helped with this project.

Abbreviations

AGN	General Archive of the Nation
AMC	Mexican Academy of Sciences
ANEC	National Association of Rural Commercialization Enterprises
APPO	Popular Assembly of the Peoples of Oaxaca
BANRURAL	National Rural Credit Bank
Bt	<i>bacillus thuringiensis</i> (soil bacterium that produces insecticide)
CASIFOP	Center for Social Analysis, Information and Training (nonprofit civil association or NGO)
CBD	UN Convention on Biological Diversity
CEC	Commission for Environmental Cooperation (CCA in Spanish)
CECCAM	Center for Studies of Rural Change
CENAMI	National Support Center for Indigenous Missions
CGIAR	Consultative Group on International Agriculture Research
CIBIOGEM	Inter-ministerial Commission on Biosafety
CIMMYT	International Corn and Wheat Institute
CINVESTAV	Center for Research and Advanced Studies, National Polytechnic Institute
CNA	National Water Commission
CNBA	National Agricultural Biosafety Committee
CNC	National Confederation of Peasants
CNM	National Maize Commission
CODEX	Codex Alimentarius Commission
COMPITCH	Council of Indigenous Midwives and Healers (an NGO)
CONABIO	National Biodiversity Commission
CONACULTA	National Council for Culture and the Arts
CONACYT	National Council for Science and Technology
CONAPO	National Population Council
CONASUPO	National Basic Foods Company
CROM	Regional Confederation of Mexican Workers
CTM	Workers' Central (Union) of Mexico

DGSV General Directorate of Plant Health
 Diario Oficial Federal Register
 DICONSA CONASUPO's distributor and importer
 DNA deoxyribonucleic acid
 ETC Group Action Group on Erosion, Technology and Concentration
 (formerly RAFI)
 EU European Union
 EZLN Zapatista Army of National Liberation
 FAO Food and Agriculture Organization of the UN
 PROC-CROC Revolutionary Confederation of Workers and Peasants
 (labor union)
 GATT General Agreement on Tariffs and Trade
 GDP gross domestic product
 GE genetically engineered (also GM, or genetically modified)
 GEA Environmental Studies Group (an NGO)
 GM genetically modified (also GE, or genetically engineered)
 GMO genetically modified organism
 GRAIN an international NGO
 IMF International Monetary Fund
 INAH National Institute of Anthropology and History
 INE National Ecology Institute
 INEGI National Institute of Statistics, Geography, and Informatics
 INI National Indigenist Institute (defunct)
 INIFAP National Institute of Forestry, Agricultural, and Livestock
 Research
 iPCR inverse polymerase chain reaction
 LBOGM Biosafety and Genetically Modified Organisms Law
 LMO living modified organism
 lps liters per second
 MAP Mexican Agricultural Program of the Rockefeller Foundation
 NAFTA North American Free Trade Agreement
 NGO nongovernmental organization (and in Mexico, nonprofit civil
 association)
 OEE Oficina de Estudios Especiales
 PA Office of the Attorney General for Agrarian Affairs
 PAN National Action Party
 PCM Mexican Communist Party
 PCR polymerase chain reaction
 PMS Mexican Socialist Party
 PNA Private Newspaper Archives (of Juan Manuel Gámez Andrade, and
 the Barroso Archive of the Tehuacán Chronicle newspaper)
 PRD Party of the Democratic Revolution
 PRI Institutional Revolutionary Party

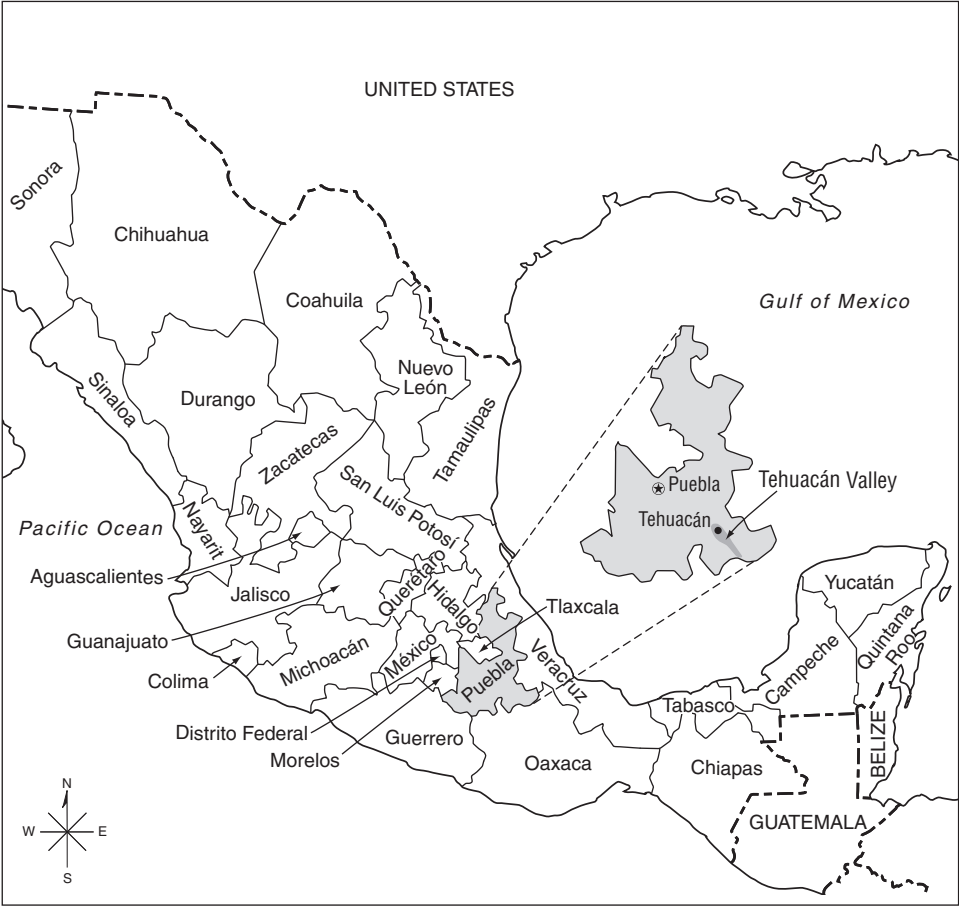
Procampo direct rural support program
 PROCEDE Program for the Certification of Ejido Rights and the Titling
 of Urban House Plots
 PROFEPA Federal Environmental Protection Agency
 PROGRESA Education, Health, and Nutrition Program
 PRONASE National Seed Producer
 PRONASOL National Solidarity Program
 PSUM Unified Socialist Party of Mexico
 PVEM Ecological Green Party of Mexico
 RAN National Agrarian Registry
 rDNA recombinant DNA
 SAGAR former name of SAGARPA
 SAGARPA Ministry of Agriculture, Animal Husbandry, and Fisheries
 SAM Mexican Food System (policy)
 SARH former name of SAGARPA
 SEDESOL Ministry of Social Development
 SEMARNAT Ministry of the Environment and Natural Resources
 SENASICA National Service of Agriculture, Food, and Animal Health,
 Safety, and Quality (a branch of the Ministry of Agriculture)
 SIAP Agri-Food and Fishery Information Service
 SRA Ministry of Agrarian Reform
 SUITTAR Independent Workers Union of the Tarrant Company
 TRIPS WTO agreement on Trade Related Aspects of Intellectual Property
 Rights
 UN United Nations
 UNAM National Autonomous University of Mexico
 UNORCA National Union of Autonomous Peasant Organizations
 UNOSJO Union of Organizations of the Sierra Juárez of Oaxaca
 WTO World Trade Organization

Introduction

THE STRUGGLE FOR MEXICAN MAIZE

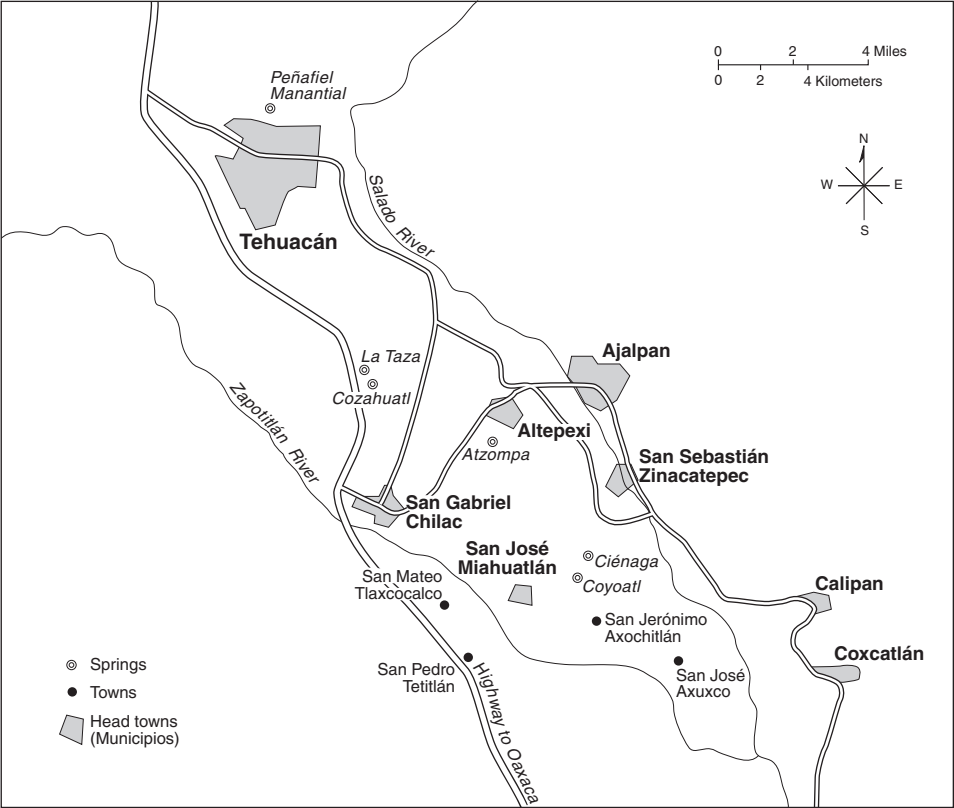
A longtime symbol of *lo mexicano*, or Mexicanness, maize has recently come to represent rural and even national culture threatened by neoliberal policies and corporate-led globalization in the debates about genetically modified (GM) corn.¹ Transgenes were found in local Mexican corn varieties in 2001, setting off highly charged debates about the extent to which GM corn poses a threat to native varieties in the crop's center of origin, domestication, and biodiversity. At the time the cultivation and scientific testing of GM corn were prohibited in Mexico, yet corn imports from the United States, where there is no required labeling or separation of transgenic corn, included genetically engineered varieties. Corn is imported as a grain to be used for animal feed, tortillas, and industrial processing, but it remains a seed and a living modified organism which can be planted and can reproduce in the environment. This dual nature of maize, as grain and seed, poses particular challenges for isolating or tracking GM corn in a country where native maize varieties are cultivated throughout the nation's territory. Beyond these regulatory issues, the GM corn controversy raises questions about the fate of the peasantry in an era of corporate agriculture and globalization.

In a globalized food system, foods not only travel enormous distances but have enormous regulatory, political, and cultural implications. The aim of this book is to provide readers with what one sociologist of GMOs has called a "political economy of meaning" of the corn debates, which asks under what conditions food innovations are accepted, ignored, or rejected (Murcott 2001). This book situates GM corn imports within the Mexican "neoliberal corn



LOCATION OF THE TEHUACÁN VALLEY IN PUEBLA STATE, MEXICO

TOWNS OF THE SOUTHERN TEHUACÁN VALLEY



regime” (Fitting 2006a), policies which affected maize producers and consumers by bringing Mexico in line with the structural adjustment agendas of the World Bank and the International Monetary Fund. These policies advance conventional capital-intensive agriculture and the export of fruits and vegetables to Canada and the United States.² They promote trade liberalization, cuts to rural subsidies, and the involvement of agribusiness in various stages of production, and have deepened the country’s dependency on corn imports. Mexico now imports its most consumed and culturally important crop, maize, and its most significant export is labor. In this sense neoliberal policies have sought to transform peasants into new rural subjects, into either agricultural entrepreneurs who produce for export or an inexpensive labor force. To what extent the policies have been successful in effecting this transformation is one of the questions taken up by this book.

The neoliberal corn regime also reproduces and extends older constructions of rural Mexico as a site of intervention for development. Maize agriculture, rural development, and food security are reduced to questions of profit and market efficiency. Although small-scale maize agriculturalists often have in mind reasons other than profit, or in addition to profit, when they grow maize, these reasons are devalued or dismissed. Indeed, as critics of development schemes have found elsewhere, a key component of state policy is the production of technical expertise which dismisses or excludes other types of knowledge—in this case, that of small rural producers themselves (Scott 1998; Mitchell 2002).

One of the benefits of situating the GM maize controversy within the neoliberal corn regime is that it draws our attention to how participants in the debate legitimize or challenge neoliberal policies. But when I began interviewing participants in the fall of 2000, I wondered about maize producers themselves: What did they think? How were they affected? The study of the corn debates, like the politics of food and agriculture more generally, needs to go beyond a focus on questions of regulation, policy, and state institutions to consider political practices more broadly (Lien 2004). With these concerns in mind, I carried out fieldwork on the livelihood strategies of smallholder maize producers and residents in the Tehuacán Valley of Puebla state. These producers constitute an important layer of meaning in the recent GM corn debates, not just because their practices and voices are the subject of debate but because they are

actors who react to and engage rural policy and state bureaucrats and experts. The valley is also one of the sites where evidence of transgenes was later found in native cornfields.³

While the Tehuacán Valley differs from communities politically active on the issue of GM corn, such as its neighbors in the highlands of Oaxaca, like much of rural Mexico the valley is struggling with neoliberal policies and crisis. The valley represents a common and significant disjuncture in the maize debates: what is under debate in the Mexican Senate, in national newspapers, at academic conferences, and at urban rallies may not be a topic of conversation or debate in the countryside, and when it is, the debate is often framed in distinctive ways. The information and debate about GM corn is unevenly communicated, shared, and received. As GM corn and the controversy surrounding it move from one social context to the next, they are translated and understood in different ways.

This book examines the livelihood struggles of maize producers in relation to the questions and issues raised by the GM corn debates. The future of in situ maize conservation depends on the regulation of GM imports, but perhaps more importantly on the livelihood practices of rural Mexicans. Maize biological diversity is affected by the social relations of production and reproduction among growers. It is a dynamic process in which native maize varieties (*criollos*) are maintained and developed through exchanges between cultivators and between cornfields. As the Mexican critics of transgenic maize and their allies in the transnational food sovereignty movement have pointed out, if the small-scale producers who select and plant regionally varied types of maize abandon agriculture in large numbers, the in situ genetic variety and abundance of the crop will be displaced. I do not mean to imply that change in rural livelihoods necessarily has negative social or ecological consequences. Rather, one of my main arguments is that although small-scale agricultural producers are always faced with a degree of uncertainty, under the neoliberal corn regime the struggle to maintain or improve their livelihoods has intensified. Moreover, I believe that those campesinos who want to remain on the land should have the ability to do so. The anthropologist Armando Bartra (2008) refers to this as the right not to migrate, “the right to stay home.”

This introduction briefly summarizes the effects of the neoliberal corn regime on the southern Tehuacán Valley, and then outlines a second argument of this book: that the debates over GM corn—how

the issues are framed, what is said and not said, and by whom—have significant political consequences. Some debate participants would benefit from listening to the perspectives of small-scale maize farmers on the difficulties that they and their communities face. This introduction also provides some background on economic crisis and structural adjustment policies in Mexico, discusses my methods and theoretical approach, and takes up key concepts such as peasants, food regimes, neoliberalism, and globalization.

OVERVIEW OF THE BOOK

Part I of this book, “Debates,” examines how questions of culture, risk, and expertise are framed in the controversy surrounding transgenic maize. Based on interviews with participants in the GM corn debates, attendance at coalition forums and press conferences, and the reading of media reports, chapter 1 examines how the official government position relies on scientific experts to evaluate the risks associated with gene flow among maize varieties, while the anti-GM corn coalition calls for including Mexican campesinos, consumers, and concerned citizens in the risk assessment process. Chapter 2 focuses on how particular assumptions about rural culture in early agrarian policy and debate are used to contest or defend more recent neoliberal policies. The anti-GM coalition challenges the official perspective by drawing on the Mexican and transnational food and peasant rights movements, which highlight the goal of food sovereignty.

Part II of the book, “Livelihoods,” considers the practices and perspectives of southern valley maize producers, migrants, and maquiladora workers. It begins by taking readers into the Tehuacán Valley to consider how an indigenous peasantry was formed in interaction with the practices of the state and capital accumulation. Chapter 3 provides a snapshot of the valley town San José Miahuatlán at mid-twentieth century to illustrate the centrality of irrigation water in maize agriculture and community organization. It explores local disputes over water and ideas about indigenous ethnicity. Chapter 4 argues that households have dealt with economic and environmental crises by combining maize production with maquiladora work and migration to the United States, and that this in turn has led to the emergence of transnational peasant households and

households in transition. While migrant remittances help to support valley households, these funds and the experience of waged, off-farm employment are changing ideas about the generational and gendered labor of the household, including maize agriculture. Notably, as explored in chapter 5, migrants in their teens and twenties have little knowledge of agriculture, or experience or interest in agricultural production. This last chapter also takes a closer look at local narratives about corn agriculture and the reasons why a campesino identity resonates with older residents.

RESEARCH IN THE CRADLE OF CORN

Located in the southeastern end of Puebla, the Tehuacán Valley descends from north to southeast, continuing toward Teotitlán, Oaxaca. The Sierra Zongólica mountain range, which forms part of the Sierra Madre, borders the valley at its northern and eastern sides. The valley is also bordered by the Sierra de Zapotitlán and the Sierra de Mazateca at its southern and western sides. In 1998 the Tehuacán-Cuicatlán Biosphere in southeastern Puebla and northeastern Oaxaca was established, to help protect the biodiversity of cactus and other species in the region from the threats of deforestation, overgrazing, and illegal sales.

The valley is known as the “cradle of corn” because of Richard MacNeish’s important archaeological study of the 1960s, which uncovered maize cobs dating back to 5000 BCE (MacNeish 1972). Although the valley is considered one of several possible locations of original maize domestication, recent evidence suggests that other sites are more likely candidates (Matsuoka, Vigouroux, Goodman, Sanchez, Buckler, and Doebley 2002).

Prehistoric irrigation was central to this incipient agriculture (Woodbury and Neely 1972), and even today, an irrigation system of water springs, underground tunnels, and chain wells (*galerías filtrantes*) remains essential to agricultural production in the valley. In the late 1920s water bottling plants were established in Tehuacán, and soon after, the city attracted tourists to its spring waters, believed to have healing properties.

Today campesinos and indigenous peoples from the valley and surrounding sierras look to the growing city of Tehuacán for employment in spring water and soda bottling plants, the poultry in-

dustry, and apparel plants, or maquiladoras. The region was nicknamed the “capital of blue jeans” during a maquiladora boom in the 1990s. The area has a mixed heritage of Nahuatl, Popoloca, Mixteca, Chocho, and Mazateca peoples, although Nahuatl became the common language of the valley through Aztec domination shortly before the Spanish conquest (Aguirre Beltrán 1992 [1986]). Nahuatl is the most widely spoken indigenous language in Mexico.

Maize and beans are commonly cultivated crops in the valley, and commercial crops like garlic, tomatoes, sugarcane, fruits, and flowers are also grown. As in other areas of Mexico, rain-fed white corn—distinct from industrial, hybrid yellow corn—is largely grown for human consumption. Since the 1960s valley producers have also grown irrigated white maize for sale on the cob, called *elote*. Other significant activities in the region include goat herding, the production of construction materials (especially bricks and cinder blocks), and handicrafts like baskets and embroidered clothing for tourist markets outside the valley.

South of the city there are seven valley *municipios*, or counties, which cultivate commercial *elote*. San José Miahuatlán (pop. 13,500) is the southern *municipio* bordering Oaxaca, comprising the head town (*cabecera*) of the same name and four auxiliary towns: Axusco, San Jerónimo Axochitlán, San Pedro Tetitlán, and San Mateo Tlacoxcalco. The population of the head town, where my research was focused, is around 8,760.⁴ While state authorities classify the county of San José as a “marginalized” indigenous area because it is one of the poorest areas of the valley (Embriz ed. 1993, 159–60), it is also considerably better off than the neighboring sierra in terms of services like potable water, electricity, and transportation.

In the 1980s the anthropologists Kjell Enge and Scott Whiteford found that agriculture was “the lifeblood of the Tehuacán Valley” (1989, 29). This holds true today, although livelihoods have further diversified and migration has accelerated. In San José cornfields (*milpas*) either follow the Mesoamerican tradition of intercropped maize, beans, and squash or are simply limited to corn. Landholdings tend to be small (up to five hectares) or less frequently of medium size (six to twelve hectares). These holdings are on communal, private, or *ejido* land, the last consisting of hillside terrains largely used for wood collection, goat grazing, and to a lesser extent rain-fed maize production. Rainfall in the valley is irregular, and

while the soil is fertile in many areas, calcium salts and carbonates are deposited in the soil by irrigation water. Over time this can lead to salinization and soil that becomes toxic to plants. Additionally, when the concentration of calcium salts is high, they form a hardpan beneath the surface (*caliche*), making drainage of the soil very difficult (Byers 1967; Enge and Whiteford 1989, 27–28).

Methodology

This book focuses on the debate over the GM corn scandal during a six-year period corresponding to the administration of President Fox (2000–2006). I interviewed various types of debate participants about regulation and the GM corn controversy—government officials, maize biologists, biotechnologists, and anti-GM corn activists in Mexico City, Tehuacán, and Chapingo—who were identified as experts in the media or by other participants. I wanted to understand how they discussed and framed the controversy and the problems facing the countryside. Social scientists are increasingly interested in the role of experts and expert knowledge in state practices and political rule. Modern states and public officials often rely on the “rule of experts” (Mitchell 2002), as expertise enables them to present their decisions in technical rather than political terms (Ferguson 1994). In Mexico the study of “experts” and those with influence includes looking at how anthropologists and social scientists portray the countryside; over the years anthropology has played an important role in shaping Mexican state policy and representing rural folk. This role is discussed in chapter 2. By critically engaging our own discipline, anthropologists can be more conscious of the ways we contribute to the construction of rural Mexico as a site for particular types of expert interventions.

The second method I undertook was ethnographic fieldwork, which I conducted among residents in the southern Tehuacán Valley town of San José Miahuatlán. I lived in the valley in 2001–2, with several extended visits over the next six years. When fieldwork began I asked residents what they thought about *maíz transgénico*, but found that the controversy had not reached the valley during my visits, despite the government study which found evidence of transgenes in its northern end. I carried out research with a couple of other questions in mind: Why was maize the crop of choice when local

agricultural production declined in the 1980s and into the 1990s—as residents and statistics suggested? And how were livelihoods affected by trade liberalization and recent state policies?

Fieldwork included seventy interviews and surveys with residents on their household composition, work or migrant history, and agricultural practices and corn varieties. Over a period of several months in 2002 I also accompanied a government extension worker from the regional office of the Ministry of Agriculture during his visits to producers in valley towns. Together we conducted surveys on the costs of corn production.

For anthropologists, fieldwork is based on participant observation, which is much more than conducting interviews or surveys; it is a process of building relationships with residents and communicating informally with people in everyday situations, such as when they are hanging out at the corner store, at a friend's home shelling corn, or in line at the mayor's office waiting for some subsidy. Of course anthropologists are not neutral or disinterested observers: they occupy particular social locations and take with them to the field questions that have been shaped by their academic training and life history. My social location as a university-educated North American gave me access to government offices and research sites that less privileged rural Mexicans do not have. Moreover, my account of the valley is not a complete picture of life in the region. Ethnographic fieldwork does not get us to the "truth" or total picture of a place, but it does provide a rich context for understanding interview or survey responses and does give us insight into ideas and practices that may not be captured in other ways.

When I first arrived in San José Miahuatlán I quickly found out that tensions existed between the local branch of the PRI (Partido de la Revolución Institucional or Institutional Revolutionary Party)⁵ and the other main political party in town, the PRD (Partido de la Revolución Democrática or Party of the Democratic Revolution),⁶ because of conflict over irrigation water during the 1980s. At the national level the PRI had been in power for seventy-one years. I made an effort to associate with families of different political affiliations and took special care to change the names of the interviewees in my notebooks and in publications, with a few exceptions.⁷ History weighs heavily in San José. Although many Mexican rural communities, including other valley towns, have experienced periods of violent conflict over scarce resources, in San José the conflict has

shaped the relations of community in particular and profound ways. There is a perception among valley residents and city dwellers that Sanjosepeños are naturally prone to violence.

San José has both similarities with other struggling rural towns and its own unique history. Like other rural areas of Mexico it has a history of postrevolutionary disputes over resources and now combines maize production with transnational labor migration. However, in the valley producers grow both rain-fed and irrigated corn, in contrast to peasant producers who depend on rainfall alone. Moreover, in a country so regionally varied by language, custom, and geography from one community to the next, the kind of maize produced and the labor strategies employed vary greatly, as can the specific reasons for conflict and labor migration, and their effects.

Valley Livelihoods: Maize, Migrants, and Maquiladoras

When I began fieldwork in the southern valley I found that many households cultivated corn for consumption and sale on the market; and that they were financed by off-farm income, including remittances from young migrants in the United States and employment in valley maquiladoras. Yet in post-NAFTA Mexico it is often less costly to buy industrially produced and imported corn than it is to grow the crop locally on a small scale.

Previously not a migrant-sending area, San José now sends the majority of its young male residents (aged fifteen to late thirties) to work across the border. At home maize is the preferred crop because it is the mainstay of the diet and has multiple, flexible uses: if there are no buyers or the price of maize is too low, the crop is dried and consumed as grain in the form of tortillas. When cash is needed in emergencies, the grain can be sold in small amounts at a loss. In the absence of a social safety net in rural Mexico, maize provides a kind of insurance, particularly for older residents and the unemployed. Maize is a form of security for those left behind, for those who cannot migrate or do not wish to. In other regions maize agriculture, cuisine, and seed can also have a strong spiritual component.

In the southern Tehuacán Valley residents are struggling with the effects of inflation, lack of regional employment, and neoliberal policies, as well as with declining levels of irrigation water. As a result, agriculture and the social relations of production are being remade in significant ways. The household strategy which combines

maize production with migration and maquiladora work has been accompanied by the monetization of available agricultural labor and a decline in sharecropping. Young men hired to work the milpa now prefer to be paid in wages rather than through sharecropping arrangements. (In the valley, work in the milpa is typically done by men, although women contribute to other aspects of maize agriculture.) More significant is the preference of young migrants for non-agricultural work. Members of this younger generation have little knowledge about corn agriculture and claim that they will not take up the crop as they age because “there is no money to be made in the cornfield.” A last trend is the declining use of the traditionally intercropped milpa (maize grown with beans and squash) and several varieties of local maize.

NARRATIVES ABOUT CORN CULTURE

The politics of food and agriculture involve struggles over who directs the focus of public debate and how the issues are framed. In Mexico official narratives articulated by the Ministry of Agriculture and in policy portray smallholder corn agriculture as inefficient because of its low yields and its use of “traditional” technology, such as criollo seed. Drawing upon interviews with Mexican scientists and activists engaged in the corn debates, this book demonstrates how the coalition In Defense of Maize, formed in 2002 by Mexican environmentalist, campesino, and indigenous rights groups in response to transgenic contamination, shifted the debate away from the official focus on inefficiency and the risks of gene flow toward wider concerns about the future of the Mexican countryside and culture. Critics of GM maize challenge the government and industry narratives which privilege scientific expertise in evaluating the risks of gene flow (see Heller 2002 on France). In doing so this “pro-maize”, anti-GM coalition contends that the appropriate experts for evaluating potential harm are not only biotechnologists and other scientists but corn producers and consumers. As with other GM controversies, the Mexican corn debates contest the boundaries of accepted expert knowledge and also implicate competing constructions of culture and nature. The anthropologists Chaia Heller and Arturo Escobar further suggest that in such controversies, “Bio-diversity and transgenic agriculture constitute powerful networks

through which concepts, policies and ultimately cultures and ecologies are contested and negotiated” (2003, 169).

Participants in the GM corn debates articulate ideas about peasants, indigenous peoples, and development in relation to corn and culture. Arguments about culture are used to defend or reject recent state policies and trade liberalization. While the pro-maize coalition draws our attention to the policies which exacerbate the difficult conditions for small producers, in some cases they misrepresent changes taking place in the countryside. At times both the government and the pro-maize coalition portray maize agriculture as part of a millennial culture or tradition, distinct from the capitalist economy of modern Mexico—a form of what Michael Kearney (1996) and others have called “peasant essentialism.”⁸ The government narrative posits the production of corn as inefficient precisely because it is deemed a culture of subsistence untouched by the workings and values of capitalist markets. Critics counter that this is a positive alternative to capitalism and its processes of commodification. Both these narrative strategies rely on a conceptual binary between the “market” and the “local community” (Hayden 2003b) and between the modern and the traditional. They also overlook the fact that Mexico, and the rest of Mesoamerica, were an important pre-capitalist center of commodity production and exchange (Cook 2006). Thus an additional argument of this book is that conceiving of a millennial culture of corn obscures how maize-producing communities (or peasantries) are made and remade in interaction with larger forces and processes.

These narratives about the Mexican countryside are not simply words and ideas; they are an inherent part of social practice and have material effects in the world. There is power in the process of naming. The ways that policy makers and experts view and describe the countryside, its problems and remedies, make their way into policy and state practices, although these policies are implemented and received in uneven and unintended ways. Various social constructionist schools of thought rightly point out that we never arrive at the truth about the social world in a manner unmediated by language, discourse, or ideology; nevertheless, some representations are fairer or more rigorous than others. This book is of course my own account of how policies and narratives make their way to the countryside. It is my hope that this ethnography illustrates why we should not rely on official versions about the benefits of trade liber-

alization, conventional agriculture, measures to cut state services, or neoliberal solutions to rural poverty. Alternative accounts of these policies show that campesinos are not “inefficient” producers, isolated from the workings of the market, nor have they necessarily responded to neoliberal reform in the predicted manner. Valley migrants, campesinos, and maquiladora workers are social agents who engage and respond to state policies and globalization, but not under conditions of their own choosing.

Conceptualizing Culture

As both a crop and a food for humans, mainly in the form of tortillas, maize is a particularly powerful symbol of the nation in Mexico, with many often contradictory layers of meaning. Foods have strong emotive powers because they structure daily life, are part of the process of socialization, and are symbols and signs of other things. The act of eating involves consuming meaning and symbols as well as consuming foods (Douglas 1966; Mintz 1985). Foods play a role in demonstrating and delineating social distinctions such as social status, ethnic belonging or exclusion, and gender difference. In Mexico corn-based foods are inscribed with notions of culture, race, and gender, and so is maize agriculture. In chapter 2 we see how maize-based foods went from being a symbol of indigenous backwardness and isolation to a symbol of the mestizo nation in mid-twentieth-century Mexico, yet state policy continued to associate maize agriculture with economic backwardness and inefficiency. And while areas that rely most heavily on criollo varieties (rather than scientifically improved seed) do tend to be the poorest in Mexico, it is sometimes incorrectly suggested that small-scale maize production is responsible for rural poverty.

The recent GM corn debates have inherited and negotiated earlier ideas about peasant maize-based agriculture and rural culture: they are frequently portrayed as isolated, primordial, and driven by values of subsistence over profit. Such peasant essentialism distorts changes taking place in the countryside and the strategies of small-holder maize farmers and campesinos as they confront the neoliberal corn regime. This portrayal overlaps with a bounded and internally static concept of culture—what the anthropologist Eric Wolf (1982) famously referred to as the “billiard ball” view of cul-